# South Dakota State University

# UNDERGRADUATE CATALOG

2021-2022

# South Dakota State University

# General Catalog
# 2021-2022

**Per SDBOR Policy 2:20:**

**The information contained in this catalog is the most accurate available at the time of publication, but changes may become effective before the next catalog is published. It is ultimately the student's responsibility to stay abreast of current regulations, curricula, and the status of specific programs being offered. Further, the university reserves the right, as approved by the Board of Regents, to modify requirements, curricula offerings, and charges, and to add, alter, or delete courses and programs through appropriate procedures. While reasonable efforts will be made to publicize such changes, a student is encouraged to seek current information from appropriate offices.**

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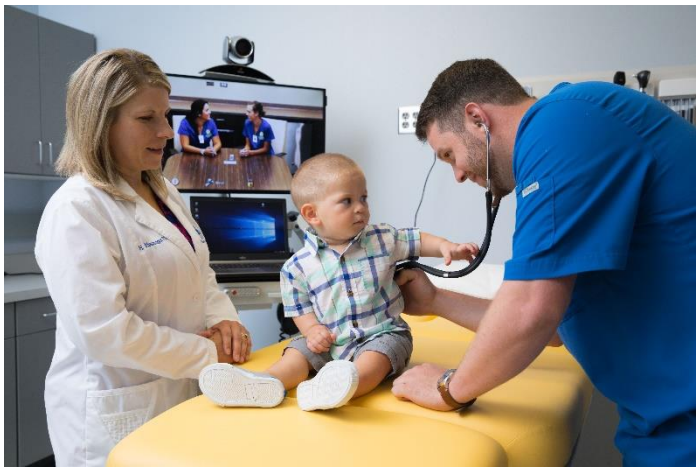

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# About SDSU


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# History & Mission: The Land-Grant Heritage

## A Brief History

South Dakota State University is the state's largest, most comprehensive institution of higher education. The land-grant heritage of South Dakota State University, which began with a college founded in 1881, originates from local and national legislation dating back to 1862. The Morrill Act, passed by Congress and signed by President Abraham Lincoln in July of that year, embodied a revolutionary idea in higher education. The legislation created a new type of educational institution, one to give instruction in both liberal and practical arts to people in all parts of the country who needed to work for a living. In 1889, when South Dakota achieved statehood, Congress, acting under the Morrill Act of 1862, granted 160,000 acres of land for the use and support of the "agricultural college." By accepting this land allocation, the State had to designate the Agricultural College as a land-grant college.

State Agriculture Experiment Stations were formed in 1887 under the Hatch Act of Congress, which provided for establishment of agricultural experiment stations in connection with Land-Grant universities and colleges. The stations were established to conduct research to address relevant agricultural and rural issues for their home states and regions.

The Cooperative Extension Service was established in 1914 to provide useful, current, research based agricultural, home, family, and youth related information to the people of the State. Federal funds are appropriated through the U.S. Department of Agriculture, which cooperates with state colleges of agriculture and counties in conducting planned programs of extension work.

Historically, the Land-Grant institutions have had the responsibility of training individuals to be U.S. Military officers in the event of war or military emergency, thus, alleviating the need to have a large standing army. During WWII, SDSU as a Land-Grant University served a central role in preparation of students and graduates for military service through ROTC. SDSU continues to have an exemplary ROTC program. Following the war, SDSU and other Land-Grant institutions accepted an international responsibility contributing to economic and agricultural revitalization in war devastated countries. International responsibility has continued to evolve as a part of the Land-Grant mission.

In 1917, the Smith-Hughes Act, provided for the preparation of teachers for secondary-school level instruction in agriculture, industrial arts, and home economics. By 1928 South Dakota State College had been chosen to conduct this program.

As of 1923 South Dakota State College had an instructional program organized under five divisions: Agriculture, Engineering, General Science, Home Economics, and Pharmacy. Thirty years later, General Science was renamed the Division of Science and Applied Arts. The Nursing Division was created in 1956. The following year all graduate work was organized into the Graduate Division.

Status as a university began when the South Dakota Legislature changed the name of South Dakota State College to South Dakota State University on July 1, 1964. At that time the following colleges were created: Agriculture and Biological Sciences, Arts and Science, Engineering, Home Economics, Nursing, Pharmacy, and the Graduate School.

In 1994 the Federal Government granted 29 tribal college (four in South Dakota) land-grant status. Tribal land-grant college extension programs are conducted in cooperation with the traditional (1862) land-grant institutions; therefore, SDSU has an on-going relationship with the tribal colleges through the land-grant linkage.

Today SDSU consists of the following colleges:

- College of Agriculture, Food & Environmental Sciences
- College of Arts, Humanities & Social Sciences
- College of Education & Human Sciences
- College of Natural Sciences
- College of Nursing
- College of Pharmacy & Allied Health Professions
- Graduate School
- Jerome J. Lohr College of Engineering
- Van D. & Barbara B. Fishback Honors College

## Mission Statement

(SDBOR Policy 1:10:2)

The legislature established South Dakota State University as the Comprehensive Land-Grant University to meet the needs of the State and region by providing undergraduate and graduate programs of instruction in the liberal arts and sciences and professional education in agriculture, aviation, education, engineering, human sciences, nursing, pharmacy, and other courses or programs as the Board of Regents may determine. (SDCL 13-58-1)

The Board implemented SDCL 13-58-1 by authorizing South Dakota State University to offer a rich academic experience in an environment of inclusion and access through inspired, student-centered education, creative activities and research, innovation and engagement that improve the quality of life in South Dakota, the region, the nation and the world.

The institution is also charged with promoting excellence in teaching and learning, supporting research, scholarly and creative activities, and providing service to the State of South Dakota, the region, and beyond.

South Dakota State University facilitates the transference of knowledge through the Cooperative Extension Service with a presence in every county and through other entities, especially to serve the citizens of South Dakota.

South Dakota State University is unique within the South Dakota System of Higher Education because of its comprehensive land grant mission. The mission is implemented through integrated programs of instruction, the Cooperative Extension Service, the Agricultural Experiment Station, and numerous auxiliary and laboratory services.

### Curriculum

The following curriculum is approved for South Dakota State University:

A. Undergraduate Major Level Curriculum
   - Agricultural and Food Sciences, American Indian and Indigenous Studies, Apparel Merchandising, the Arts, Architecture, Aviation, Computer Science (in accordance with SDCL 13-59-2.2), Construction and Manufacturing, Consumer Affairs, Education, Engineering, Entrepreneurship, Exercise Science, Fine and Performing Arts, General Studies, Health Sciences, Human Sciences, Humanities, Liberal Arts, Management (non-business fields), Mathematics, Natural Resources, Nursing, Pharmacy, Physical/Biological/Environmental Sciences, Social Sciences, Sport Media and Administration, and Technology.

B. Master's Level Curriculum
   - Agricultural Sciences, Architecture, Athletic Training, Computer Science, Education, Engineering, Human Sciences, Humanities, Liberal Arts, Mathematics and Statistics, Nursing, Operations Management, Physical and Biological Sciences, Public Health, and Social Sciences.

C. Doctoral Level Curriculum

- Agricultural Sciences, Engineering, Nursing, Human Sciences, Pharmacy and Pharmaceutical Sciences, Physical and Biological Sciences, and Social Sciences.

**Authorized Degrees**

A. Undergraduate Degrees

- Associate of Arts (A.A.)
- Associate of Science (A.S.)
- Bachelor of Arts (B.A.)
- Bachelor of Fine Arts (B.F.A.)
- Bachelor of General Studies (B.G.S.)
- Bachelor of Landscape Architecture (B.L.A.)
- Bachelor of Music Education(B.M.E.)
- Bachelor of Science (B.S.)
- Certificates in related fields

B. Graduate Degrees

- Doctor of Nursing Practice (D.N.P.)
- Doctor of Pharmacy (Pharm.D.)
- Doctor of Philosophy (Ph.D.)
- Master of Architecture (M.Arch.)
- Master of Arts (M.A.)
- Master of Education (M.Ed.)
- Master of Engineering (M.Eng.)
- Master of Mass Communication (M.M.C.)
- Master of Public Health (M.P.H.)
- Master of Science (M.S.)
- Certificates in related fields

## Strategic Plan - Imagine 2023: Aspire. Discover. Achieve.

### Mission

South Dakota State University offers a rich academic experience in an environment of inclusion and access through inspired, student-centered education, creative activities and research, innovation and engagement that improve the quality of life in South Dakota, the region, the nation, and the world.

### Vision

South Dakota State University will be a premier land-grant university recognized for high value, innovation, and bold impact.

### Core Values

- People-Centered: We recognize leadership is derived from service to others. We are committed to creating a culture where all thrive and are supported on their own personal and professional paths toward lifelong learning, growth, and leadership.
- Creativity: Creativity is our cornerstone to expand knowledge, develop human understanding, and enrich quality of life. We believe that education and research/scholarship/creative activity reinforce one another and the best academic programs bring innovative teaching and rigorous research together.
- Integrity: We act with organizational and personal integrity, through honest interactions, professionalism, transparent and accountable decision-making, and respect for others.
- Diversity: We are committed to diversity of community and ideas. We believe in a supportive, inclusive, collaborative, and cohesive environment with a focus on access. We actively seek collaboration and we respect individuals with differing perspectives, backgrounds, and areas of expertise.
- Excellence: Excellence is achieved through continuous improvement, assessment, and accountability. We embrace bold action and adapt to an ever-changing environment. Individually, we are experts at what we do. Collectively, our impact is even greater.

### Goals & Strategies

- Achieve Excellence Through Transformative Education
  1. Attain academic excellence.
  2. Affirm student success as a foundational University priority.
  3. Increase recruitment, retention and graduation of professionally prepared global citizens.
- Cultivate and Strengthen Community Engagement
  1. Enhance the academic and work environments of the University by fostering a culture of service, servant leadership and inclusive excellence among faculty, staff and students.
  2. Grow the University's external engagement through extension, collaborative service, community outreach, alumni relations and public- private partnerships that enhance the quality of life in South Dakota and beyond.
- Foster Innovation and Increase Research, Scholarship, and Creative Activity (RSCA)
  1. Strengthen the leadership and personnel infrastructure for innovation, RSCA and economic development to serve the state, region, nation and world.
  2. Increase, optimize and align the physical resources and investments for innovation, RSCA and economic development.
  3. Create an institutional culture of communicating and branding SDSU RSCA and its achievements, outcomes and impacts to the full scope of stakeholder and peer communities.
- Be a Growing, High-Performing and Healthy University
  1. Infuse core values throughout all levels of the University.
  2. Grow and sustain financial resources aligned with the mission of SDSU.
  3. Allocate the University's resources to achieve strategic priorities.

## Accreditation

The University holds institutional membership in a number of educational associations: the Association of Public and Land-grant Universities (1307 New York Avenue NW, Suite 400, Washington, D.C. 20005-4722; Phone: 202-478-6040) promotes the aims expressed in the Morrill Act of 1862, and in the subsequent acts of Congress relating to Land-Grant Colleges.

South Dakota State University Academic Accreditations and Certifications

### Academic Accredited Programs

| Accrediting Agency | Degree |
|---|---|
| **Accreditation Board for Engineering & Technology (ABET)** | |
| Agricultural & Biosystems Engineering | B.S. |
| Computer Science | B.S. |
| Civil Engineering | B.S. |
| Electrical Engineering | B.S. |
| Mechanical Engineering | B.S. |
| Construction Management | B.S. |
| Operations Management | B.S. |
| Electronics Engineering Technology | B.S. |
| **Accreditation Commission for Programs in Hospitality Administration (ACPHA)** | |
| Hospitality Management | B.S. |
| **Accreditation Council for Pharmacy Education (ACPE)** | |
| Pharmacy | Pharm.D. |
| **Accreditation Council for the Education of Nutrition and Dietetics (ACEND)** | |
| Dietetics | B.S. |
| Dietetic Internship | NA |
| **Accrediting Council on Education in Journalism & Mass Communication (ACEJMC)** | |
| Advertising | B.A./B.S. |
| Journalism | B.A./B.S. |
| Mass Communications | M.M.C. |
| Public Relations | B.S. |
| **American Society of Agricultural & Biological Engineers (ASABE)** | |
| Agricultural Systems Technology | B.S. |
| **American Society of Biochemistry and Molecular Biology (ASBMB)** | |
| Biochemistry | B.S. |
| **American Society of Health-System Pharmacists (ASHP)** | |
| Pharmacy - PGY1 Residency Program | Certificate |
| **Aviation Accreditation Board International (AABI)** | |
| Aviation with Specialization in Aviation Education | B.S. |
| **Commission on Accreditation of Athletic Training Education (CAATE)** | |
| Athletic Training | M.S. |
| **Commission on Accreditation for Respiratory Care (CoARC)** | |
| Respiratory Care | A.S. |
| **Commission on Accreditation for the Exercise Sciences (CoAES)** | |
| Exercise Science | B.S. |
| **Commission on Accreditation of Programs in Applied and Clinical Sociology (CAPACS)** | |
| Sociology | Ph.D. |
| **Commission on Collegiate Nursing Education (CCNE)** | |
| Nursing | B.S. |
| Nursing | M.S. |
| Nursing | D.N.P. |
| Nursing - APRN Post-Graduate | Certificate |
| **Council for Interior Design Accreditation (CIDA)** | |
| Interior Design | B.F.A. |
| **Council for the Accreditation of Counseling and Related Educational Programs (CACREP)** | |
| Counseling and Human Resource Development with Specialization in Clinical Mental Health Counseling | M.S. |
| Counseling and Human Resource Development with Specialization in College Counseling | M.S. |
| Counseling and Human Resource Development with Specialization in School Counseling | M.S. |
| Counseling and Human Resource Development with Specialization in Rehabilitation and Mental Health Settings | M.S. |

## Academic Accredited Programs

| Accrediting Agency | Degree |
|---|---|
| **Council for Accreditation of Educator Preparation (CAEP)*** | |
| Teacher Education** | B.A./B.S. |
| Principal** | M.Ed. |
| *Formerly known as NCATE (name changed 2019) | |
| **Granted Probationary Accreditation Spring 2020 | |
| **Council on Education for Public Health (CEPH)** | |
| Public Health | M.P.H. |
| **Landscape Architecture Accreditation Board (LAAB)** | |
| Landscape Architecture | B.L.A. |
| **National Architectural Accrediting Board, Inc (NAAB)** | |
| Architecture | M.Arch. |
| **National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)** | |
| Medical and Laboratory Sciences | B.S. |
| **National Association of Schools of Art and Design (NASAD)** | |
| Graphic Design | B.F.A. |
| Interior Design | B.F.A. |
| Studio Art (Art Education, Ceramics, Painting, Printmaking, Sculpture) | B.F.A. |
| **National Association of Schools of Music (NASM)** | |
| Music Education | B.M.E. |
| Music | B.A. |
| **National Association of Schools of Theatre (NAST)** | |
| Theatre | B.A./B.S. |
| **Society for Range Management (SRM)** | |
| Rangeland Ecology and Management | B.S. |

## Academic Accredited Units

| Accrediting Agency | Degree |
|---|---|
| **American Association of Museums Accreditation Commission (AAM)** | |
| South Dakota Art Museum | NA |
| **American Association of Veterinary Lab Diagnosticians (AAVLD)** | |
| Animal Disease Research and Diagnostic Lab | NA |
| **National Association for Education of Young Children (NAEYC)** | |
| Fishback Center for Early Childhood Education | NA |

## Academic Accredited Units

| Accrediting Agency | Degree |
|---|---|
| **American Association of Museums Accreditation Commission (AAM)** | |
| South Dakota Art Museum | NA |
| **American Association of Veterinary Lab Diagnosticians (AAVLD)** | |
| Animal Disease Research and Diagnostic Lab | NA |
| **National Association for Education of Young Children (NAEYC)** | |
| Fishback Center for Early Childhood Education | NA |
| **Society for Simulation in Healthcare (SSH)** | |
| Nursing Healthcare Simulation Center | |

## Academic Certified Programs/Units

| Accrediting Agency | Degree |
|---|---|
| **American Chemical Society** | |
| Chemistry | B.S. |
| **Institute for Food Technologists (IFT)** | |
| Food Science | B.S. |
| **Nonprofit Leadership Alliance (formerly American Humanics)** | |
| Leadership and Management of Nonprofit Organizations | Minor |
| **National Collegiate Honors Council** | |
| Van D. and Barbara B. Fishback Honors College | |

### Academic Certified Programs/Units

| Accrediting Agency | Degree |
|---|---|
| **Department of the Army** | |
| Army ROTC | |
| **College Reading and Learning Association** | |
| Tutoring/Supplemental Instruction (SI) Program | |

### University Accreditation

| Accrediting Agency | Degree |
|---|---|
| **Higher Learning Commission (HLC)** | |
| Institution | NA |

## Research, Scholarship & Creative Activities

The University is committed to excellence in research, scholarship and creative activities as a key part of fulfilling the University's mission. Discovery of new knowledge, ideas, and processes are fundamental to the mission of a Land-Grant University and contribute to the state's economic development and quality of life. Research and scholarly activities are essential for intellectual growth and interactions among faculty and students.

The University encourages and supports research, scholarship and creative activity in all disciplines. To support these activities, the University and its faculty actively pursue funds through competitive grant proposals and through cooperative agreements with other institutions of higher education as well as state and federal agencies. Student participation in university research is encouraged, especially as a way to begin an exciting career path. Students can often conduct research through mentorship with faculty and publish the results of their work. Additionally, the University conducts an annual event to highlight undergraduate student involvement in research, scholarship, and creative activities.

South Dakota State University is classified by the Carnegie Foundation for the Advancement of Teaching as a Doctoral University: High Research Activity and as a national university by most rating organizations. These recognitions are reflected in abundant research opportunities available to students.

For information, contact the Division of Research and Economic Development, South Dakota State University, Box 2201, Brookings, South Dakota 57007-1998, phone: 605-688-5642.

# Admission Policies & Procedures


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This section outlines admissions policies and procedures at South Dakota State University. The South Dakota State University Policy and Procedure Manual is the definitive source for the most current South Dakota State University policies. Policies duplicated on other websites or in print may not be the most current version. All policies documented on the site are official and supersede policies located elsewhere. South Dakota State University is governed by state and federal law, administrative regulations, and policies of the South Dakota Board of Regents (SDBOR) and the State of South Dakota.

# Application Procedures

The SDSU Admissions Office processes applications on a rolling basis. Students are encouraged to apply well in advance (six to ten months) of the semester they wish to attend in order to arrange housing, apply for financial assistance, and to attend new student orientation/early registration programs.

All applicants must submit the following to be considered for admission:

- **Admission Application**
- **$20 Application Fee**
  If you have previously attended SDSU or another South Dakota public university as a degree-seeking student within one year prior to the term of application or have been called into active duty with the military, you are not required to pay the application fee to SDSU.
- **Official High School Transcript**

SDSU is a test optional institution meaning that ACT or SAT scores are not required as part of the admission process. However, we do encourage students to submit scores if they have completed either test to be used in instances of conditional admission decisions and course placement where test scores may benefit a student.

In addition, all transfer applicants must provide:

- **Official Post-Secondary Transcript(s)**
  You must request official transcripts from all non-South Dakota Board of Regents schools you have previously attended. You do not need to have transcripts sent from other SD Regental universities. All transcripts should be sent from the issuing institution directly to the SDSU Admissions Office. If you are currently enrolled at another institution, you may send partial transcripts and be considered for provisional admission until the final transcript arrives.

Upon admission to the University and prior to enrolling for classes, all new applicants are required to provide proof of the Board of Regents required immunizations. This form will be given to students prior to their enrolling at SDSU.

Questions regarding admission can be sent to:

South Dakota State University
Office of Admissions
Enrollment Services Center
1175 Medary Avenue, Box 511
Brookings, SD 57007
605-688-4121 or 1-800-952-3541 (Toll Free)

# Undergraduate Admission Requirements

(SDBOR Policy 2:3)

SDSU offers all educational programs, material, and service to all people without discrimination based on race, color, creed, religion, national origin, ancestry, citizenship, gender, marital status, pregnancy, sexual orientation, age, disability, or veteran status.

## Freshman Admission

### Baccalaureate Degree Admissions

For admission to a **baccalaureate degree program**, high school graduates must either meet the Smarter Balanced or Curriculum requirements outlined below:

**A. Smarter Balanced**

Achieve a Level 3 or higher on the English Language Arts and Mathematics Smarter Balanced Assessments

**Curriculum**

Graduate in the top 60% of their high school graduating class;

OR

Earn a high school cumulative GPA of at least a 2.6 on a 4.0 scale.

OR

Achieve an ACT composite score or superscore of 18 or SAT Math and Reading/Writing subscore total of 970 or higher.

**AND**

B. Complete the following minimum course requirements with a cumulative grade point average of a "C" or higher (2.0 on a 4.0 scale) or demonstrate appropriate competencies in discipline areas where course requirements have not been met:

**4 years of English**
*or* ACT English sub-test score of 18 *or* above
or AP Language and Composition or Literature and Composition score of 3 or above

**3 years of Advanced Mathematics** [1]
*or* ACT Math sub-test score of 20 *or* above
or AP Calculus AB or Calculus BC score of 3 or above

**3 years of Laboratory Science** [2]
*or* ACT Science Reasoning sub-test score of 17 or above
*or* AP Biology, Chemistry or Physics B score of 3 or above

**3 years of Social Science**
*or* ACT Social Studies/Reading sub-test score of 17 or above
*or* AP Microeconomics, Macroeconomics, Comparative or US Government and Policies, European or US History or Psychology score of 3 or above

**1 year of Fine Arts**
*or* AP History of Art, Studio Art drawing or general art portfolio or Music Theory score of 3 or above

For students graduating from high schools in states that do not require completion of courses in fine arts for graduation, high school level non-credit fine arts activity will be accepted.

[1] Algebra, geometry, trigonometry or other advanced mathematics including accelerated or honors mathematics (algebra) provided at the 8th grade level; not included are arithmetic, business, consumer or general mathematics or other similar courses.

[2] Laboratory science includes biology, chemistry, physics, or other approved science courses in which there is a weekly lab period scheduled. Accelerated or honors science (biology, physics or chemistry) provided in the 8th grade shall be accepted.

Applications from students with deficiencies are reviewed on an individual basis.

### Associate Degree Admissions

Admission to **associate degree (two-year)** programs is granted if you meet one of the following criteria:

A. Rank in the top 60% of your high school graduating class;

OR

Earn a cumulative GPA of at least 2.6 on a 4.0 scale.

OR

Achieve an ACT composite score or superscore of 18 or SAT Math and Reading/Writing subscore total of 970 or higher.

Students enrolled in the two-year programs who have not met the minimum high school course requirements may enter a bachelor's program only after they have satisfactorily completed:

A. At least 15 credit hours of the system general education requirements with a 2.0 GPA;

AND

Meet university minimum progression standards.

## Transfer Students

You are considered a transfer student if you have college credits from an accredited institution and are six or more months beyond high school graduation. If you are currently enrolled at another institution, you can send partial transcripts and be considered for provisional admission until the final, official transcript arrives.

Students transferring from a degree seeking program at one Regental university to a degree-seeking program at another Regental university will be required to apply for admission.

Students who have been admitted to a degree-seeking or special program at one Regental university may register for courses at any Regental university without submitting another application.

### Students who Transfer to Baccalaureate Programs

A. Transfer students who have completed 24 or more semester credits are eligible for admission if they meet the following requirements:

- Have a 2.0 ("C") or higher cumulative grade point average. Students entering the professional program in Education must have a 2.5 GPA. Admission to the professional programs in Nursing or Pharmacy is on a competitive basis.
- Are in good standing with their most recently attended school.

B. Students with less than a cumulative 2.0 grade point average may be admitted on probation, but each applicant is considered on an individual basis.

- For information on academic standing for incoming students with transfer credit, refer to SDBOR Policy 2.3, section 9.7.

C. Transfer students under age 24 who have earned fewer than 24 semester college credits must also meet the Freshman admission requirements as outlined above.

### Students who Transfer to Associate Programs

Students under 24 years of age transferring into associate degree programs with fewer than 12 transfer credit hours must meet the associate degree admission requirements. Students with 12 or more transfer credit hours with a cumulative GPA of at least 2.0 may transfer into associate degree programs at the discretion of the University.

## Former Students

Former SDSU students who want to reapply for admission must submit official transcripts from all colleges attended since leaving SDSU. In addition, former students must submit another admission application if he or she has interrupted attendance by one or more semesters. Approval of admission is required by the dean of the appropriate college and the director of admissions.

## Non-High School Graduates

Applicants who did not graduate from high school must:

A. Be 18 years or older to meet the compulsory school attendance requirement in South Dakota;

AND

B. Complete the General Educational Development (GED) test credential with the following minimum test scores:

a. Scores earned since 2014: Earn a score of at least 145 on each subject and a total score of 580 or higher across all four subjects;

b. Scores earned from 2002 to 2013: Earn a score of at least 410 on each subject and a total score of 2250 or higher across all five subjects (i.e., an average score of 450 across all five subjects);

c. Scores earned from 1997 to 2001: Earn a score of at least 40 on each subject and a total score of 225 across all five subjects (i.e., an average score of 45 across all five subjects);

d. Scores earned from 1981 to 1996: Earn a score of at least 40 on each subject or a total score of 225 across all five subjects (i.e., an average score of 45 across all five subjects);

e. Scores earned from 1943 to 1980: Earn a score of at least 35 on each subject or a total score of 225 across all five subjects (i.e., an average score of45 across all five subjects)

OR

Complete the High School Equivalency Test (HiSET) and obtain a minimum score of 15 on each of the five subsections;

OR

Complete the Test Assessing Secondary Completion (TASC) and obtained a minimum score of 500 on each of the five subtest categories;

## Home Schooled or Non-Accredited High School Students

Students who are home-schooled or who attend a non-accredited high school must submit an official transcript (in a semester format) for review from either an accredited regional authority or home school provider in conjunction with state requirements:

### Baccalaureate Degree Program

For admission to baccalaureate degree programs, home school graduates must:

A. Meet the minimum course requirements established in the Freshman Admission section with an average grade of C (2.0 on a 4.0 scale) or demonstrate appropriate competencies in discipline areas listed in the Freshman Admissions section where course requirements have not been met.

OR

B. Obtain an ACT composite score or superscore of 18; or SAT Math and Reading/Writing subscore total of 970 or higher; or complete an Accuplacer exam meeting designated scores determined by the institution. Please inquire with SDSU Office of Admissions for more information.

### Associate Degree Program

For admission to associate degree programs, home school graduates must:

A. Meet Baccalaureate admissions requirements depicted in the Freshman Admissions section

OR

B. Complete at least 15 credit hours of the system general education requirement with a 2.0 GPA;

AND

C. Meet university minimum progression standards.

## Non-Traditional Students

Applicants who are at least 24 years of age or older and who have not previously attended college will be admitted in good standing if they have graduated from high school or have successfully completed the GED with scores as indicated above.

## Non-Degree Seeking Students

Students who wish to enroll with a partial load or who do not plan to work toward a degree may be admitted as a non-degree seeking student. Non-degree seeking students are not eligible to receive federal financial aid. Traditional aged students, as defined by SDBOR policy, are recommended to apply as a degree-seeking student. Non-degree seeking students must be a high school graduate or meet non-high school graduate requirements as defined above.

## High School Students

High school juniors and seniors may be admitted to SDSU as a South Dakota High School Dual Credit student or a concurrent high school student once you submit the appropriate admissions application complete with documentation of high school and parent approval and a current high school transcript.

# Regental Policy for Transfer of Credit

(SDBOR Policy 2:5)

The purpose of the policy is to establish the framework for the consistent transfer of credit among Regental institutions, and by students earning credit external to the six institutions managed by the South Dakota Board of Regents. Additionally, guidance is provided for the accepting credit through approved validation methods.

## Transfer of Courses to Meet Degree Requirements

1. Academic courses will be transferred as meeting graduation requirements if the courses parallel the scope and depth requirements for the degree or if the courses meet electives required for the degree. Credit will not be given for duplication of courses.
2. Undergraduate courses considered for transfer are subject to all BOR policies and any conditions for validation that may be prescribed by the accepting institution. When a university evaluates and accepts the transfer of undergraduate credit under the provisions of this policy, these courses will be recorded and equivalencies granted using the following guidelines:
   - If there are specific undergraduate courses at the university evaluating the credit, these specific courses should be used when granting equivalencies.
   - If the academic discipline is available at the university evaluating the credit, but there is no discipline equivalent course, use the discipline prefix and the appropriate course level (100 for Freshman level, 200 for Sophomore level, 300 for Junior level, and 400 for Senior level).
   - If the academic discipline is not available at the university evaluating the credit, use the ELEC prefix and the appropriate course level (100 for Freshman level, 200 for Sophomore level, 300 for Junior level, and 400 for Senior level).
3. Total Transfer of Credit Limit
   - Total transfer credit for work at a two-year technical or community college may not exceed one-half of the hours required for completion of the baccalaureate degree at the accepting institution unless an approved program-specific waiver exists.
   - The System Vice President for Academic Affairs may approve program- specific waivers of up to seventy-five (75) total transfer credit hours at the accepting institution.
   - Board of Regents approval is required:
     - For baccalaureate program-specific waivers of seventy-six (76) total transfer credit hours up to a maximum of ninety (90) total transfer credit hours at the accepting institution.
     - For graduate accelerated program-specific waivers of thirteen (13) total transfer credit hours up to a maximum of twenty-five (25) total transfer credit hours at the accepting institution.
   - Students who have completed more than the acceptable semester hours of junior, community or technical college work may apply completed, transferable courses to specific course requirements and thereby may not be required to repeat the courses. The semester hours of credit for those additional courses may not be applied toward the minimum credit hours required for the degree.
4. Student Appeals for Transfer of Credit Decisions
   - Each institution will develop and maintain a procedure for the appeal of transfer credit decisions.

## Transfer of General Education Coursework

### Internal Transfer of General Education Coursework

1. A student who has completed the general education requirements outlined in Policy 2:7 and 2:26 at the sending Regental institution will have completed the equivalent degree level requirements at the receiving institution regardless of the course distributions or approved course lists. In any subsequent evaluation of any transfer or non-course work, equivalencies for system common courses and system general education courses will not be changed.
2. A student who has not completed all general education requirements at the sending institution will be required to complete additional coursework consistent with the course requirements at the receiving South Dakota Regental institution.

### External Block Transfer of General Education Coursework

1. A student who has completed General Education requirements that are consistent with the six (6) goals and credit hour requirements outlined in Policy 2:7 and 2:26 will enter the Regental system having fulfilled the General Education program requirements. Students will be expected to meet all degree program requirements including course prerequisites.
2. When considering whether undergraduate transfer of academic courses received from non-Regental accredited institutions shall qualify to meet the System General Education credit hour requirements outlined in Policy 2:7 and 2:26, a Regental institution shall:
   - Evaluate the general education goals and student learning outcomes rather than specific course equivalencies;
   - Ensure that a minimum of three (3) credit hours of coursework is required for each of the six general education goals and that a total of at least twenty-four (24) credit hours of general education coursework are required by the sending institution for associate degree students and thirty (30) for bachelor's degree students.
   - Request a general education transfer agreement be approved for students entering from the institution.
3. When it is determined that the goals and credit hour requirements from a non-Regental accredited institution do not align with Policy 2:7 and 2:26, a Regental institution may request a partial general education transfer agreement be approved where goal consistency does exist.

## Transfer of Credit from Accredited United States Colleges, Universities & Technical Institutes

1. General Requirements
   - All grades transferred will be calculated into grade point averages according to the Regental grade scheme, and recorded on the student's academic transcript.
   - Transfer grades not existing in the Regental grading scheme will be equated to the Regental grading system. (Refer to SDBOR Policy 2:10, Use of Grade Point Averages).
   - The university-specific degree or plan of study requirements determine if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.
   - Except for the conditions outlined for graduate transfer, during any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed, re-evaluated, or inactivated. In subsequent evaluations, grades previously recorded cannot be changed.
2. Undergraduate Transfer
   - All undergraduate transfer courses and all transfer grades (whether the grades are passing or not passing) must be recorded and an equivalency specified by the Regental university.
   - Courses of a vocational/technical nature are generally not transferable. However, if such work is judged to be pertinent to the needs of a particular curriculum or program, credit will be granted upon the recommendation of the department offering the course.
   - Remedial courses (as identified on the sending institution's transcript) received in transfer are recorded, transcribed, and assigned an equivalency at the receiving university but do not calculate into grade point averages.
   - Orientation, Life Experience, an approved high school equivalency examination, and high school level courses are not recorded in Colleague as transfer credit nor are they granted equivalent credit.
   - High school courses for which students received college credit will not be entered as transfer credit, or given equivalent credit, unless one of the following conditions are met:
     - Validated by an Advanced Placement or CLEP score that meets Board of Regents guidelines for acceptance of credit;
     - The college credit is granted by a university with which the Board has a dual credit agreement; or
     - The college credit is granted by an institution meeting the accreditation standards of the National Alliance of Concurrent Enrollment Partnerships (NACEP).
3. Technical Course Transfer from Colleges and Universities
   - University discretion is permitted in acceptance of courses. Courses considered for transfer are subject to all SDBOR policies and any conditions for validation that may be prescribed by the accepting institution.
   - When the courses are accepted for transfer, equivalent courses are recorded on the transcript but the grade earned at the technical institute is not recorded or calculated into the grade point averages.
4. Course Transfer from Technical Colleges
   - South Dakota Technical Colleges
     - Transfer of academic courses from South Dakota postsecondary technical colleges is governed by SDBOR Policies 2:25, 2:26, 2:27, and 2:31.
     - Transfer of technical course credit hours from South Dakota postsecondary technical colleges occurs as part of a program to program articulation agreement or specific program approved by the Board of Regents and South Dakota Board of Education Standards, unless an institution determines a course equivalency consistent with the process outlined in this policy.
     - The transfer of technical course credit hours occurs as a block of credit hours upon completion of requirements for the university articulated program for which a CR grade will be assigned.
     - Academic courses taken under articulation agreements in effect between July 1, 1999 and June 30, 2005 will be transferred according to those agreements.
   - Other Technical Colleges
     - University discretion is permitted in acceptance of academic courses. Academic courses considered for transfer are subject to all BOR policies and any conditions for validation that may be prescribed by the accepting institution.
     - Transfer of technical course credit hours from non-South Dakota postsecondary technical colleges occurs as part of a program to program articulation agreement or specific program approved by the Board of Regents.
     - The transfer of technical course credit hours occurs as a block of credit hours upon completion of requirements for the university articulated program.
     - When the academic courses are accepted for transfer, equivalent courses are recorded on the transcript.

## Graduate Transfer Courses Received from Accredited United States Colleges and Universities

1. All graduate transfer courses and transfer grades judged to be acceptable by the evaluating university, are recorded and evaluated by the Regental university, calculated into grade point averages according to the Regental grade scheme, and recorded on the student's academic transcript.
2. If transfer credits are judged acceptable; these courses will be recorded, and equivalencies granted, using the following guidelines:
   - If there are specific equivalent graduate courses at the university evaluating the credit, these specific courses should be used when granting equivalencies.
   - If there are no equivalent graduate courses at the university evaluating the credit, these courses will be recorded, and equivalencies granted, using the following guidelines:
     - If the academic discipline is available at the university evaluating the credit, but there is no discipline equivalent course, use the discipline prefix and the appropriate course level (500/600 for master's programs and 700/800 for doctoral programs).

    - If the academic discipline is not available at the university evaluating the credit, use the ELEC prefix and the appropriate course level (500/600 for master's programs and 700/800 for doctoral programs).

3. Transfer grades not existing in the Regental grading scheme will be equated to the Regental grading system.
4. In subsequent evaluation, all equivalencies may be re-evaluated, inactivated, or changed. Additional equivalencies may be added and evaluated. In subsequent evaluations, grades previously recorded cannot be changed.
5. The university-specific plan of study requirements determines if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.

### Credits Received from United States Colleges or Universities Located Outside the United States or Not Accredited

1. General Requirements
    - University discretion is permitted in acceptance of courses. Courses considered for transfer are subject to all BOR policies and any conditions for validation that may be prescribed by the accepting institution.
    - In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed, re-evaluated, or inactivated. Additional equivalencies may be added and evaluated.
    - The university-specific degree requirements determine if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.
    - When the courses are accepted for transfer, equivalent courses are recorded on the transcript but the grade earned at the institution is not recorded or calculated into the grade point averages using the following guidelines:
        - If there are specific equivalent courses at the university evaluating the credit, these specific courses should be used when granting equivalencies.
        - If there are no equivalent courses at the university evaluating the credit, these courses will be recorded, and equivalencies granted, using the following guidelines:
            - If the academic discipline is available at the university evaluating the credit, but there is no discipline equivalent course, use the discipline prefix and the appropriate course level (500/600 for master's programs and 700/800 for doctoral programs).
            - If the academic discipline is not available at the university evaluating the credit, use the ELEC prefix and the appropriate course level (500/600 for master's programs and 700/800 for doctoral programs).
2. Postsecondary Institutions Outside the United States
    - At the discretion of the institution's chief academic officer, grades may be recorded and used to determine the transfer and cumulative GPAs.
3. Technical College
    - Courses submitted in transfer from postsecondary technical colleges that are not accredited will not be accepted.

### Credit Received Through Validation Methods & Prior Learning Assessment

1. Credit earned through validation methods other than nationally recognized examinations is limited to a maximum of thirty (30) hours of credit for baccalaureate degrees and fifteen (15) hours of credit for associate degrees. Credits may be earned through established procedures for prior learning assessment, including but not limited to assessment of military training and education. Each campus may determine appropriate course equivalencies as warranted and consult equivalencies established by the American Council on Education (ACE) when making final decisions.
    - Validation of military credit is limited to an additional thirty (30) hours of credit for baccalaureate degrees and an additional fifteen (15) hours of credit for associate degrees.
    - University discretion is permitted in acceptance of validated military credit for graduate programs, limited to a maximum of twelve (12) credit hours.
2. Credit for college level courses granted through nationally recognized examinations such as CLEP, AP, DSST, etc., will be evaluated and accepted for transfer if equivalent to Regental courses and the scores are consistent with Regental policies. Such credits are only valid if transcripted by a university within five years of the student taking the examination. Regental institutions shall honor credits from nationally recognized examinations transcripted to meet degree requirements at a non-Regental institution.
    - If credit received through validation is applied as elective credit, it may only be applied at the 100 or 200 level.
    - Credit received through validation may apply to System General Education Requirements.
3. When validation credits are accepted, equivalent courses are recorded on the transcript but are not calculated into the grade point averages.
4. In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed, re-evaluated, or inactivated. Additional equivalencies may be added and evaluated.
5. The university-specific degree requirements determine if the validation credits accepted also are applicable to the student's degree program at that university.

## Transfer between Regental Universities

Transfer between any of the six South Dakota Board of Regents universities has been further facilitated by the recent revision of the common course numbering system and the 2003 merging of the six South Dakota public universities into one database. Most general education courses at all six universities now have the same prefix, course number, and title. This will help transferring students understand how their courses will most likely transfer. Please be aware that majors and colleges have specific program requirements that must be met. These can include a minimum grade for transfer, a course sequence, or a more advanced course.

## Articulation Agreements

Technical Institute courses are designed to prepare students to enter the workforce for careers requiring less than a baccalaureate degree. Acceptance of these courses for credit at the South Dakota public universities is strictly the function of the receiving institution. Students who wish to transfer credits to a South Dakota public university for programs should contact the Admissions Office of that desired university for an evaluation of their program objectives and technical institute transcript. An individual evaluation of course credits will be made by the receiving public university in accordance with institutional and Board of Regents policy.

South Dakota State University has established articulation plans with a number of technical institute programs. Articulation agreements also have been established with tribal colleges, regional community colleges, other colleges and universities, and selected international educational institutions. College Deans assist students in determining the status of articulated courses.

## Correspondence Credit

South Dakota State University will grant credit for correspondence courses from other colleges under the following circumstances: Limited credit for correspondence work may be applied toward a degree. Such credit will not be approved if the work is done while the student is enrolled in the University, unless arrangements have been made in advance with the dean of your college. Maximum acceptable credit by correspondence may be limited by the dean of the college you are entering. No credit will be given for correspondence courses in ENGL 101, 201, or 379 unless such courses are taken from a South Dakota Board of Regents institution.

A person not enrolled at SDSU who wants to earn credits by correspondence and apply them toward a degree at SDSU should consult with the appropriate college dean.

## Admission with Advanced Standing

Students may be qualified to enter college at a level above the average freshman. Students may receive this advanced standing and/or credit through a variety of testing programs (see "Examination for University Credit"). The final decision in granting advanced standing and/or credit rests with the head of the department in which the credit is sought.

## Admission of International Students on Nonimmigrant Visas

SDSU is dedicated to providing educational opportunities for students from abroad and has traditionally enrolled students from over 80 different countries.

To be considered for admission, an international student must submit:

- International Student Application.
- Official academic transcripts for all secondary and postsecondary education.
- Official report of academic English language proficiency.
- Application fee of US $20.00.

International students generally need to have a minimum secondary grade point average of 2.6 (on a 4.00 grading scale) or have the equivalent of a B average in the U.S. System, or college transfer grade point average of a 2.0 or higher. Transfer students from academic programs at other U.S. institutions must have completed at least 24 consecutive semester credits (36 quarter credits) at a single institution. SDSU requires a minimum score submission from non-native English speakers of 61 TOEFL iBT (500 PBT), 44 Pearson PTE, 5.5 IELTS, or 90 Duolingo. SDSU also provides a list of waiver countries that are considered to be native English speakers and a comprehensive list of acceptable proof of language proficiency.

International students who have been offered admission will need to provide a Financial Certification Form and supporting financial documentation to allow SDSU to issue Form I-20 for the visa application process.

International students not meeting minimum requirements for full admission may opt for the degree pathway program in SDSU's English Language and Culture Institute.

**International students are required to purchase and maintain university approved health insurance for themselves and their dependents for the duration of their enrollment at SDSU.**

SDSU regrets that it is unable to offer financial aid such as tuition waivers to international students. **Applicants must, therefore, show clear evidence of adequate resources for financing their program of study.**

SDSU reserves the right to require advance deposits of estimated tuition, fees, and living expenses when warranted by prevailing foreign exchange difficulties.

International Students have a separate application packet. Applicants outside of the U.S. must complete applications and submit documentation by June 15 to be considered for fall admission and November 15 for spring admission. Applications not meeting the deadline requirement for one semester will remain active and considered for the following semester when completed. Contact the International Student Affairs Office for the application packet and further information: International Student Affairs, Briggs Library, Suite 119; Box 2115, Brookings, SD 57007. Phone: 605-688-4122; e-mail or fax 605-688-6540.

## Policy for Transfer of International Undergraduate Credit

College level and advanced secondary level courses taken at international institutions will be evaluated for transfer consideration by an independent credential evaluation service. Students who have been accepted to South Dakota State University and have attended colleges or universities outside the United States must provide South Dakota State University with a course-by-course evaluation and official university transcript. South Dakota State University considers evaluations from World Educations Services, Inc (WES) to be more accurate than other evaluation services. We also recommend the WES International Credential Advantage (ICAP) package, as the included transcripts are considered official. Course-by-course evaluations submitted from other NACES member approved evaluation service will be accepted at the discretion of SDSU. A syllabus from the international institution is required to determine equivalency. **No** English or Speech course will be accepted for credit from an international institution unless English is the official language of the country. For those international institutions that have an articulation agreement with SDSU, the agreement determines the courses that transfer full credit.

SDSU reviews courses with consideration to institution type and vocational or academic program. Vocational/technical credit transfer is limited to 30 credits. Technical credit will not be entered in the cumulative or semester grade point averages, but will be entered on the SDSU transcript as "CR" (credit) grades. Academic transfer credits are recorded as semester credits and are incorporated into the cumulative and semester grade point average.

The only exception to the above-stated policy will be if the student earns credit through participation in programs sponsored by universities and member organizations with which SDSU has a South Dakota Board of Regents-approved agreement. Students earning such credit through an approved program will have the option of electing either the satisfactory/unsatisfactory (S/U) or letter grade option, provided the transcript, or its equivalent, as supplied by the partner university or membership organization, has letter grades recorded on it. The student and the student's advisor, or department head or the International Affairs Director, depending upon the course/courses in question, will determine before the exchange takes place whether the S/U or letter grade option will be used. Such an agreement must be made in writing, with a copy sent to the SDSU Office of International Affairs for the student's file.

## Non-Native Speakers of English

All international non-native English speaking (NNES) undergraduate students entering South Dakota State University will have the opportunity to take the Accuplacer Exam for placement into the appropriate English writing courses.

1. In accordance with policies mandated for domestic students, international NNES undergraduate students will have the opportunity to take the Accuplacer exams to enter ENGL 101.
2. All international NNES undergraduate students who do not meet minimum Accuplacer scores (86) required for ENGL 101 will enroll in ENGL 013 English as a Second Language: More Complex Structural Patterns and Advanced Composition or ENGL 039 English as a Second Language (Advanced ESL remedial writing 2).
3. In the event that an International NNES student has not taken or does not wish to take the Accuplacer exams, the student's equivalent TOEFL/IELTS score can be used to place students into ENGL 013 (TOEFL average ≤22 or IELTS average ≤6.0) or ENGL 039 (TOEFL average 22-23 or IELTS Average =6.5) *only*.
4. No student shall enter ENGL 101 without successful completion of ENGL 039 or required Accuplacer scores, regardless of scores on TOEFL and IELTS exams.

Testing will be conducted prior to enrollment. Results will be used to determine whether a student needs to complete one or more support courses in English as a Second Language in addition to regular academic classes. The courses are designed to better prepare students for their academic program in general as well as for the English core curricula required of all entering students.

Further information regarding English proficiency requirements may be obtained from the English Language and Culture Institute, Briggs Library, Suite 119, SDSU, Brookings, SD 57007, Phone: 605-688-4122.

## Residency Requirements

In accordance with South Dakota Codified Law and Board of Regents Policy, establishment of resident status hinges on the following criteria:

- Location of permanent residence within the borders of South Dakota
- Purpose for reasons other than pursuit of higher education
- Time span of 12 or more consecutive months which immediately precedes the first scheduled day of classes for the first term of post-secondary study

Qualifications for residency for tuition purposes may be obtained by visiting the University website (keywords: residency requirements) or by contacting the SDSU Admissions Office at 605-688-4121.

# Tuition, Fees, & Financial Assistance


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This section outlines policies and general information on tuition, fees and financial aid at South Dakota State University. The South Dakota State University Policy and Procedure Manual is the definitive source for the most current South Dakota State University policies. Policies duplicated on other websites or in print may not be the most current version. All policies documented on the site are official and supersede policies located elsewhere. South Dakota State University is governed by state and federal law, administrative regulations, and policies of the South Dakota Board of Regents (SDBOR) and the State of South Dakota.

# Tuition, Living, & Other Expenses

## Tuition & Fees

Tuition and fee rates are set according to the policies of the South Dakota Board of Regents and are subject to change without prior notice. For current information view the SDSU Financial Aid webpage or SDBOR Tuition and Fees webpage.

## Residence Hall & Meal Plan Costs

SDSU offers many on-campus residential housing and meal plan options. For current information view the Residential Life Housing and Meal Plan Costs webpage.

## Billing & Payment of Student Accounts

All tuition, fees, housing, food service and miscellaneous charges to student accounts will be on an electronic billing (eBilling) system and can be viewed on SDePay, a secured website via the Internet. Payment of the student account can also be made electronically (ePayment) through SDePay. Students can authorize parents, spouse and other individuals to view the eBill and make ePayment on their student account.

By the day after census date, each student makes a full payment of charges based on the number of registered credits, residency status, and campus housing. Late fees will be assessed starting on the day after the established payment due date. SDSU encourages students to mail payments before the due date. Payment of tuition and fees can be made by cash, check or electronic bank transfer directly to the University Cashier's Office Morrill Hall 136, PO Box 2201, Brookings, SD 57007-2098.

Payment of tuition and fees using a debit or credit card can only be made through SDePay, electronic billing and payment system. American Express, Visa, MasterCard and Discover cards are accepted by SDePay. A 2.75 percent service fee is assessed by and payable to NelNet, host provider of SDePay. Authorized payers may view and pay the students' account by going to the South Dakota Public Universities Authorized Payer login at SDePay. Students may link to SDePay through their secure account on MyState.

## Indebtedness

If you are indebted to the University and do not satisfy financial obligations when due, you may be denied admission to the University. You may be administratively withdrawn from the University after notice from the University and you will not be permitted to register or receive a transcript of grades until the indebtedness is paid. This applies to your indebtedness to the University for tuition, fees, required deposits, room and board, financial aid, but not obligations due to student organizations. All accounts that the University is unable to collect will be submitted for collection and forwarded to a credit reporting bureau. The University will recover from the debtor all collection fees and attorney's fees that result from collection of an account.

## Minnesota Reciprocity Agreement

Minnesota residents shall be charged the rate established in the tuition reciprocity agreement between the South Dakota Board of Regents and the Minnesota Higher Education Coordinating Board. For further information on this program, contact Enrollment Services.

## Special Tuition Rates

In addition to the reciprocity agreements, the South Dakota Board of Regents and the South Dakota State Legislature have allowed special tuition rates for students enrolled in state support courses for children of alumni, students from the following states as part of the SD Advantage Tuition program: Colorado, Iowa, Montana, Nebraska, North Dakota and Wyoming, persons 65 years of age or older, graduate fellows and assistants, Reserve Officer Training Corps Cadets, military science courses, Western Regional Graduate Programs, employees of the State of South Dakota, members of the SD National Guard, Veterans and others who performed war service, children and spouses of National Guardsmen disabled or deceased in line of duty, visually impaired persons, children of residents who died during service in armed forces, dependents of prisoners or missing in action, certain elementary and secondary teachers and vocational instructors, survivors of certain fire fighters, certified law enforcement officers and emergency medical technicians, rehabilitation services' clients, and non-resident South Dakota National Guard members. (SDBOR Policy 5.5.1)

# Refunds

(SDBOR Policy 5:7)

SDSU processes student withdrawals in compliance with federal and Board of Regents policies. A petition process does exist for students or parents who feel that individual circumstances warrant exception from the published refund policy. Contact the Registrar, Enrollment Services Center, for information.

## Tuition & Fees Refund Policy

The end of the drop/add period for standard (those that conform to the regular semester schedule) and non-standard courses offered in a semester is the date the first 10 percent of the term ends or the day following the first class meeting, whichever is later.

## Refunds for Dropped Courses

A student receives a 100 percent refund of tuition and per-credit-hour fees for courses dropped within the drop/add period. No refund shall be provided for courses dropped after that time, except by administrative action. Any course meeting within a standard semester but for less time than the standard semester shall be treated as a non-standard semester course for refund purposes. Courses offered during summer school session and correspondence courses are considered non-standard courses.

Students who withdraw, drop out, or are expelled within the drop/add period receive a 100 percent refund of tuition and per-credit-hour fees. Students who withdraw, drop out, or are expelled after the drop/add period for which they are assessed may be entitled to a pro-rated refund as set forth herein.

## Refunds for Withdrawals

Students who withdraw from the University may be entitled to a refund of tuition and fees and institutional charges calculated through 60 percent of an enrollment period. The refund shall be determined by computing the percentage of an enrollment period remaining after the date of withdrawal multiplied times the tuition and fees originally assessed the student. At no time will refunds be awarded after the 60 percent point of the enrollment period.

## Cancelled Registration

If a student's registration is cancelled, no tuition and fee payment is due. If payments have been made, a student is eligible for a full refund.

## Extensions & Waivers

The University president, or a designee, may extend or waive the time periods in the following circumstances:

- the death of the student;

- the student's disabling condition or severe illness;
- the death, disability, or severe illness of immediate family members causing severe financial hardship to the student; or
- other extenuating circumstances beyond the student's control.

### Refunds for Residence Hall Fees

Students with a room contract who withdraw from the Regental system will receive a proportional refund at the time of withdrawal up to the 60 percent point after which no refund is available.

### Refunds for Food Service Fees

Students with a food service contract who withdraw from the Regental system will receive a proportional refund of their food service plan and 100 percent of the unused flex dollars at the time of withdrawal up to the 60 percent point. After the 60 percent point no refund is available.

### Refunds for First Day Access Charges

Refunds for First Day Access charges arising from a dropped course or withdrawal from the Regental system will be treated the same as refunds of tuition and fees. Access to the First Day content will be removed upon a student's drop date or date of withdrawal.

### Refunds for Parking Permits

A student holding a valid parking permit for fall and spring semesters may receive a refund after the completion of the fall semester provided the student withdraws from the university and returns the actual permit or terminates the virtual permit prior to the beginning of the second semester.

## Military Service - Withdrawal without Penalty

### Refund of Tuition & Fees

Students required to withdraw from the Regental system before completing a semester may receive credit or refund privileges if:

- they are regularly enrolled and belong to a military unit called for duty, or
- they are drafted and not eligible for deferment, and
- the discontinuance of class attendance is on the last practicable day before reporting for duty as determined by the student's Home University.

Eligible students who receive credit, or an incomplete, in progress, or normal progress grade for any course for which they are enrolled shall not be entitled to any refund of tuition or fees paid.

Eligible students who do not receive an incomplete, in progress, or normal progress grade or credit for a course in which they are enrolled shall be entitled to a full refund of tuition and academic fees.

The following table determines the eligibility for a grade or refund.

**Options for Final Grades & Refunds**

| | Weeks Remaining in Standard Semester | |
|---|---|---|
| | More Than 4 Weeks | Less Than 4 Weeks |
| Course Grade | Refund | Student Options |
| A | Refund | A or Refund |
| B | Refund | B or Refund |
| C | Refund | C or Refund |
| D | Refund | Refund |
| F | Refund | Refund |
| S | Refund | S or Refund |
| U | Refund | Refund |
| I, IP, NP | Refund | I, IP, NP or Refund |

NOTE: Course Grade is as determined by the instructor, either the grade to date or the final grade earned to date.

### Refunds for Room & Board

Refunds for room and board shall be pro-rata refunds for the entire semester. Board flex plans will be refunded at 100% of the unused value.

### Refunds for Books

Refunds for books for military personnel called up for active duty is as follows:

- New books with no markings or writing – 100% of purchase price
- New books with highlighting or writing – 75% of purchase price
- Books purchased used – 100% of used price

Books must be returned within the semester. Normal campus refund policies apply to books that are not returned prior to the end of the semester.

## Federal Financial Aid Recipients

U.S. Department of Education regulations define the process institutions must use to calculate financial aid that has been earned by students who withdraw and the financial aid that must be returned to the Federal Financial Aid Programs. When a SDSU student who is receiving Federal Title IV Financial Aid withdraws, the SDSU Financial Aid Office processes a Return of Title IV Funds Calculation for the student. Title IV Financial Aid includes Federal Direct Loans, Federal Pell Grants, and Federal Supplemental Grants.

For purposes of the Return of Title IV Funds calculation, a student's withdrawal date is the date the student began the withdrawal process by contacting the SDSU Registrar's Office; or the midpoint of the period for a student who leaves during the term without notifying SDSU, or at SDSU's option, the student's last documented date of academically-related activity.

### Return of Title IV Funds

When a student receiving Federal Title IV financial aid withdraws from SDSU during the enrollment period, the amount of the Title IV funds (not including Federal Work Study) that the student earned during the enrollment period will be prorated as of the student's withdrawal date. Students earn Title IV funds based on the percentage of days completed through the 60 percent point in the enrollment period. Once a student has completed more than 60 percent of the enrollment period, the student has earned 100 percent of Title IV funds.

If a student withdraws before completing 60 percent of the enrollment period, SDSU determines the portion of the aid disbursed that was earned by the student before the withdrawal date. The unearned Title IV funds are returned to the respective federal aid programs. Unearned aid is the amount of disbursed Title IV aid that exceeds the amount of Title IV aid earned.

For students who fail to officially withdraw when they stop attending classes and are assigned an "F" grade for all courses for the semester, the Return to Title IV Funds policy requires SDSU to calculate the earned financial aid amounts based on the 50 percent point of the semester. Unearned federal aid is returned as described above. If the aid was disbursed after the 50 percent point of the semester, the student will be required to return those funds.

SDSU is required to provide information on the Return of Title IV Funds policy and procedure to students. This information is available at on SDSU's website and from the SDSU Financial Aid Office. SDSU is also required to calculate the Return of Title IV Funds for federal financial aid recipients who withdraw from SDSU and to return any Title IV funds to the respective Title IV funds account. The student is responsible to repay any Title IV funds that the student was determined to be ineligible for via the Return to Title IV funds calculation.

## Financial Assistance

The majority of SDSU students receive some type of financial assistance to help pay their educational costs. Financial assistance includes both need-based financial aid such as Pell Grants, Subsidized Direct Loans, and Federal Work-Study and non-need-based aid such as merit scholarships and Unsubsidized Direct Loans. A student's financial need is calculated by subtracting the student's Expected Family Contribution from the student's cost of attendance. The Financial Aid Office determines the student's cost of attendance. The Expected Family Contribution is a federal calculation based on the student's FAFSA.

The SDSU award policy gives priority for Federal Supplemental Grant and Work-Study to students completing the FAFSA before March 1. However, the Federal Pell Grant and the Federal Direct Loan programs do not have priority processing dates. Students must reapply for federal financial aid every academic year. Please refer to the SDSU website for eligibility, aid programs, consumer information, policies, and other financial aid related information.

### General Eligibility Requirements

To qualify for federal financial aid students must:

1. Be enrolled as a regular student in a SDSU degree program
2. Be enrolled at least half-time
3. Be a United States citizen or eligible non-citizen
4. Not be in default on a federal student loan or owe a refund to a federal student grant program
5. Be registered with Selective Service if required by law
6. Maintain Satisfactory Progress as described in the SDSU Satisfactory Progress Standards. Satisfactory Progress is the measurement of a student's academic performance (credits completed, cumulative grade point average, and maximum credits attempted) toward the completion of the student's degree program. Students not meeting Satisfactory Progress Standards will have their federal financial aid eligibility suspended and can appeal, as applicable.

SDSU participates in all of the Federal Title IV Financial Aid programs. Detailed information is available on the website. Students can access their financial aid awards on the Financial aid Self Service portal.

### Grants

Grants are gift awards that generally do not have to be repaid. SDSU awards the following types of grants:

- Federal Pell Grants for undergraduate students with a qualifying Expected Family Contribution from the FAFSA and who have not received their first bachelor's degrees and who have not met or exceeded the six years of full-time Pell Grant usage allowed by federal regulation.
- Federal Supplemental Educational Opportunity Grants for certain Pell-eligible students who meet the FAFSA priority due date and are awarded when funds are available.
- TEACH Grants are for students studying to teach in high-need fields and who agree to teach at a low-income school as defined by the U.S. Department of Education.
- South Dakota Educational Access Foundation Grants that are awarded to students with significant financial need who submit a FAFSA on or before the March 1 priority date including Pell-eligible students who do not receive a Federal Supplemental Educational Opportunity Grant and students with EFCs just outside of the Pell range.

### Loans

Loans allow students to borrow money to pay for educational expenses. Loans must be repaid. SDSU students borrow the following types of student loans:

- Federal Direct Loans including need-based subsidized loans for eligible undergraduates and non-need-based-unsubsidized loans for undergraduates and graduate level students. First-time borrowers must complete a Master Promissory and Entrance Loan Counseling online. Interest rates are fixed, and repayment begins six months after the student graduates or drops below half-time enrollment.
- Federal Direct PLUS Loans for parents of dependent undergraduate students who complete the online application.
- Nursing Student Loans for Nursing majors who demonstrate financial need and meet SDSU's awarding guidelines. Interest rates are fixed at 5 percent, and repayment begins nine months after the student graduates or drops below half-time enrollment.
- Health Professions Student Loan for first- and second-year undergraduate Pharmacy majors who demonstrated financial need and meeting SDSU's awarding guidelines. Interest rates are fixed at 5 percent, and repayment begins twelve months after the student graduates or drops below half-time enrollment.
- Private and Alternative Loans that students obtain through a bank, credit union, or state agency. SDSU does not have a preferred lender list, and students may obtain a private education loan from any eligible lender. Visit SDSU's Private Lender page and click on FastChoice for a list of lenders commonly used by SDSU students.

### Student Employment & Work-Study Program

SDSU offers the following part-time work opportunities to help students pay educational costs:

- Federal Work-Study awards are based on financial need, available funds, and SDSU award policy. Students are responsible for finding a campus job or off-campus community service job that qualifies for Work-Study.
- Non-Work-Study campus jobs available through the Career and Academic Planning Services and South Dakota Job Service.

### Scholarships

Like grant aid, scholarships do not have to be repaid.

South Dakota residents who attend SDSU may qualify for the state scholarships listed below. See the South Dakota Board of Regent's website for additional information.

- South Dakota Opportunity Scholarships for South Dakota residents who graduated from a South Dakota high school and meet the South Dakota Board of Regents requirements.
- Dakota Corps Scholarships for new high school graduates from South Dakota who will major in a degree that will prepare the student to work in a critical need occupation. This is a competitive scholarship. The application is available on the South Dakota Board of Regents' website.

Through its Jackrabbit Guarantee program, SDSU awards merit-based scholarships to incoming first-time first-year students who meet designated High School GPA and/or ACT or SAT benchmarks. As continuing students, Jackrabbit Guarantee recipients who meet annual eligibility requirements will continue to receive scholarships for up to four years. The minimum Jackrabbit Guarantee award is $1000, and any SDSU academic scholarship can be used to fulfill the scholarship guarantee. Talent and participation scholarship awards are available through SDSU ROTC, Athletics, School of Performing Arts, and other on-campus entities.

SDSU scholarship funds for a term may be cancelled if the student withdraws from the University before completing the term.

Please contact the SDSU Financial Aid Office, Box 511A, Enrollment Services Center, Brookings, SD 57007. Phone 605-688-4695, or e-mail for specific applications, forms, and information. Additional information can be accessed on the SDSU website.

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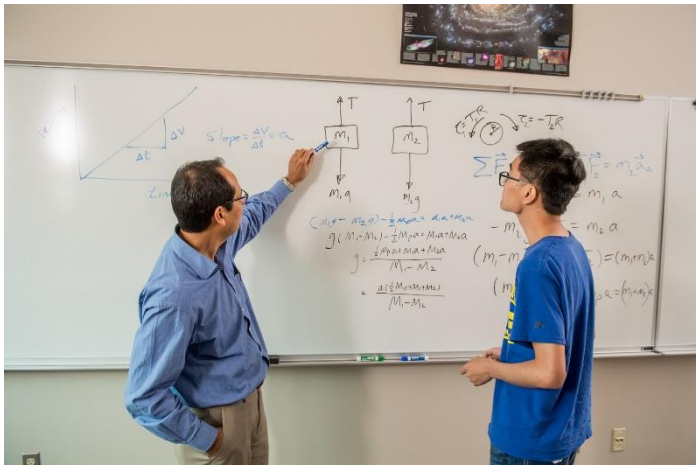

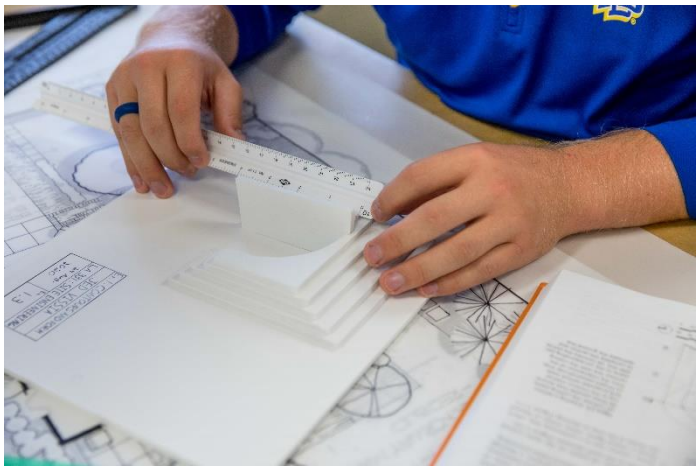

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## Admissions

Enrollment Service Center

605-688-4121

Admissions Email

The Office of Admissions at SDSU often serves as the first "face" of the university for visiting students and their families. The office encompasses recruitment, visit planning and admissions processing staff. Each year Admissions hosts a variety of on and off-campus recruitment programs that allow prospective students to learn more about the opportunities available to them at SDSU. Admissions seeks to further the overall goals of the Division by providing students with high-quality visit experiences, customer service and communication that will foster optimistic and accurate expectations about SDSU and increase students' potential for success when they arrive on campus as new Jackrabbits. New student scholarships are awarded through the Admissions Office.

## American Indian Student Center

920 Campanile Ave

605-688-6416

American Indian Student Center Email

The American Indian Student Center (AISC) is committed to providing a welcome home-place to support those who have courageously chosen to walk the path of higher education. The AISC understands that a vital part of our function involves nation building and works to encourage students to recognize and develop their voice and help prepare Native students to respond to the call to return home. The AISC also offers retention advising, recruitment for Native American students, and cultural programming.

## Army ROTC (Reserve Officers' Training Corps)

DePuy Military Hall - 1150 Campanile Ave SDSU Campus

605-688-6151

Army ROTC Email

The Army Reserve Officers' Training Corps provides leadership training, mentorship and physical fitness to students looking to be future leaders in the US Army, Army National Guard and the Army Reserve. Various scholarships are available for qualified applicants. If you want to challenge yourself, mentor others and become a leader in the premier leadership program in the world, stop by and find out how to become an Army Officer through the South Dakota State University Army ROTC program.

## Bookstore

Student Union

605-688-4136

Bookstore Email

The SDSU Bookstore, located within the University Student Union, sells books, textbooks and school supplies along with a wide variety of SDSU and Jackrabbit apparel and merchandise. The SDSU Bookstore also houses HoboTech, an Apple Authorized Campus Store. HoboTech carries a full lineup of Apple computers and accessories. HoboTech's qualified staff is available to answer Apple related questions and to offer one-on-one training sessions if desired.

The University Bookstore offers interest-free financing for up to 24 months up to $4000 on iPad and Mac.
This offer is available to qualified SDSU employees who are full-time or part-time 9 or 12 month employees. Choose from one of the three payment plans.
1. Six months: Purchases greater than or equal to $300
2. 12 months: Purchases greater than or equal to $300
3. 24 months: Purchases greater than or equal to $600
More information about this payroll deduction plan or hour of operation please visit our website www.jackrabbitcentral.com.

## Career Development

Student Union 136

605-688-4425

Facilitating the transition from student to professional and helping students and employers connect are two goals that drive the services of the Office of Career Development. Whether an incoming student trying to choose a major, a sophomore preparing to attend a career fair, a junior searching for an internship, a senior applying to graduate school, or a master's student interviewing for an entry-level job, Career Development is here to help, both in person and online. FOCUS 2 Career is an online assessment tool that empowers students to make informed decisions about their major, education and career path. SDSU students may use the code "jacks" for 24/7 access. Handshake is an online career management tool that students can use to search for jobs, internships and career fair information, plus sign up for on-campus interviews, schedule appointments with career coaches, and more. Students should use their MyState credentials to log into Handshake.

## Cashier's Office

Morrill Hall 136

605-688-6116

Cashier's Office Email

SDSU Cashier's Office manages tuition and fee related processes and questions including: assisting students with questions about their accounts, providing information on all charges and payments applied to student accounts, processing student payments and refunds, and managing student accounts receivable related holds. The Cashier's Office is also the depository office for the funds of all University departments. The Cashier's Office will establish cash funds for University departments when it is necessary.

## Chemistry Resource Room

Avera Health and Science Center 246

605-688-5151

Assistance in chemistry is coordinated through the Department of Chemistry and Biochemistry and staffed by graduate students. Resource Room hours vary by semester and are posted on the Chemistry & Biochemistry website as well as on the door. Call the department, 605-688-5151, or visit the Chemistry Resource Room on the second floor of the Avera Health and Science Center (SAV 268).

## Continuing & Distance Education

West Hall 120

605-688-4154

Continuing and Distance Education Email

The Office of Continuing and Distance Education works to broaden the reach of SDSU, with a commitment to providing quality education no matter where students reside. The office serves students on campus and across the globe. In addition to online education, the Office of Continuing and Distance Education coordinates the program offerings at several off-campus locations. The off-campus centers effectively extend the reach of SDSU by offering the same quality education to students who want to earn their degree while living and working in their home community.

## Dining Services

Student Union 073

605-697-2550

Campus Dining is a large part of the college experience. Their goal is to make each customer's dining experience the best it can be by providing good, nutritious food in a relaxed atmosphere. They also strive to deliver superior service each day. As you browse the Campus Dining site, you will get a taste of the innovative creations they have in store for you at their locations on campus which include Larson Commons, The Market, Chick-fil-a, Dairy Bar, Einsteins Bros Bagels, Erbert and Gerbert's, Extreme Pita, Panda Express, Java City, Starbucks, Weary Wil's, and Jacks' C-Store.

Locations/Hours

Meal Plan Options/Costs

## Disability Services

Student Union 271

605-688-4504

Disability Services Email

The Office of Disability Services recognizes that disability is a natural part of the human experience and an aspect of diversity that is integral to society and to the campus community. To this end, the office collaborates with students, faculty and staff across the University community to create a usable, equitable, inclusive and sustainable learning environment. To receive accommodations, students must contact the office and complete the Student Information Form. Some of the accommodations Disability Services can provide are alternative text formats, sign language interpreters, notetakes, assistive technology, alternative accommodations for exams, extended time for testing and referrals to other resources.

ADA Information

## Financial Aid & Scholarships

Enrollment Service Center

605-688-4695

FAFSA

Financial Aid Email

The Financial Aid Office administers student financial assistance programs, including federal and state financial aid, SDSU scholarships and governmental agency awards. Students must complete and submit the FAFSA to be considered for most state and federal assistance. The SDSU Financial Aid Office is available to answer your FAFSA questions.

### Financial Aid

View our Financial Aid Policy for an explanation of the different types of financial aid available to students and for information about financial aid processing.

### Financial Aid Satisfactory Academic Progress Standards

Federal regulations require the University to define and evaluate Satisfactory Academic Progress ("SAP") for federal student financial aid applicants to ensure that the federal aid given to a student is used in a constructive manner and that the student is maintaining satisfactory advancement toward achieving a degree. This policy and its procedures set forth the SAP standards for students receiving financial aid at the University.

### Scholarships

SDSU offers a variety of academic scholarships. Awards are based on academic achievement, participation in activities and leadership. Returning students can fill out the continuing student scholarship application each year to deem their eligibility for SDSU scholarships by logging on to their MyState to complete and submit the application. The freshman scholarship application can be submitted by setting up an SDSU Self Service Account.

### Work Study

605-688-4695

Work Study Email

The Federal Work-Study Program provides eligible students the opportunity to earn money for educational expenses. To be considered for Federal Work-Study, students must complete the FAFSA on or before March 1 indicating that they are interested in Work Study and meet additional need-based requirements established by the University. Students are responsible for obtaining employment to earn their Work-Study funds. Students are encouraged to inquire directly with any departments or

facilities which they are interested in working at. If students should need assistance obtaining a Work-Study position, they can contact the SDSU Department of Labor Office at (605)688-6668.

## Hilton M. Briggs Library

605-688-5107

Hilton M. Briggs Library Email

The Hilton M. Briggs Library is a center for learning, research, preservation, and discovery. It is committed to inspiring academic excellence, collaborative endeavor, creative scholarship, student engagement, and lifelong curiosity. The Briggs Library houses the University Archives and Special Collections and the Senator Thomas A. Daschle Congressional Research Study. The library is a welcoming environment with staff who provide in-depth research assistance. Resources for student use in the building include group study rooms, conference and seminar rooms, over 400 individual study carrels, 70 public access computer stations, scanners, photocopiers, and microform readers, as well as vending machines including Caribou Coffee.

Ask@Briggs

Open PRAIRIE

Research Guides

Reserve a Study Room

## International Affairs

Briggs Library 119

605-688-4122

International Affairs Email

The Office of International Affairs is the comprehensive home for international student and scholar services, international undergraduate admission, education abroad planning and community connections programs. All services and activities are intended to help enrich the experience of international students here at SDSU and to expand global engagement for all students, faculty and staff.

Resources include:

- International Student Orientation
- Interpreting Immigration Regulations
- Advising
- Issuing Official Documents
- Maintaining Records

### English Language and Culture Institute

The primary mission of the English Language and Culture Institute at SDSU is to prepare and educate English language learners to engage in academic contexts in the American higher education system, engage in civic and critical dialogues, and become empowered global citizens. Improve academic and professional English proficiency in the Intensive ESL Program.

### Education Abroad

Education abroad programs come in many different forms. Short-term programs are one to six weeks up to full semesters or an academic year. Find programs, schedules, financial information, faculty and parent resources and more.

Study Abroad and U.S. Department of State Travel Warnings Policy

## Jack's Cupboard

SE Side of Ben Reifel Hall

Jack's Cupboard combats food insecurity by ensuring those students who struggle financially to purchase food are provided this free resource supported by students, faculty and staff. It is available to all students with a student ID and a bag to collect food items (although Jack's Cupboard can supply students with a bag, if needed). Hours of operation can be found on the Jack's Cupboard website or the Jack's Cupboard Facebook page. Students, with a meal plan, can also donate block meals for Larson Commons by visiting Card Services in the Student Union. Students with leftover flex dollars or monetary donations can contribute at Card Services as well. Jack's Cupboard has a Foundation account and students, faculty, and staff are invited to make a monetary donation at the Foundation for support of the Cupboard. Donations of nonperishable food items are accepted at Jack's Cupboard during hours of operation, at the Housing & Residential Life Office weekdays from 8:00 a.m.–5:00 p.m. or at the University Police Station (24/7). or in the Student Union (by the Information desk) whenever the Union is open.

## Math Help Center

Architecture, Mathematics & Engineering Building 292

The Math Help Center provides free walk-in tutoring for students in MATH 021, 101, 103, 114, 115, 120, 121, 123, 125, and STAT 281. Hours are posted on the website. No appointment is necessary. It is a great environment for working on your math homework. Their tutors will help you when you have a question.

## Multicultural Center

Student Union 271

605-688-5585

Multicultural Center Email

The Multicultural Center at South Dakota State University develops campus initiatives that demonstrate the valued practice and philosophy of multiculturalism within the university community. Programs and activities developed by the office promote high achievement among the increasing number of minority students at SDSU. The office enhances the University mission by broadening the social, cultural, educational, and recreational experience of students. The Multicultural Center provides advising services, study space, computer resources, personal support, weekend programs, and social activities. For more information on programming, please view the calendar of events.

## MyJacks Card

Student Union 140

605-688-6943

Card Services Email

The Campus Card Office at SDSU supports the SDSU community daily life and student success through an identification and transaction system that enhances security, adds convenience, provides seamless operation across campus and furthers the reputation of the University. MyJacks ID cards allow students access to their dining plan, Hobo Dough, and campus events, as well as door access to certain halls and buildings.

Lost/Stolen Cards

Mobile App for MyJacks Card

Mobile Credential (My Jacks Card on your mobile device)

### MyJacks Card Policy

This policy and its procedures set forth the protocols to ensure proper protection of identity of the cardholder, personal funds, card system equipment, and the integrity of the door access security system for the MyJacks Card.

## New Student Orientation

605-688-6283

New Student Orientation Email

By choosing SDSU, you've opened yourself up to endless opportunities and a fantastic future. And it all starts here -- with New Student Orientation. We have great programs designed to help you prepare for life at State, from academics to extracurricular, and everything in between.

Apply to be an Orientation Leader

## Office of Diversity, Inclusion, Equity & Access

Morrill Hall 124

605-688-4033

The mission of the Office of Diversity, Inclusion, Equity, and Access (ODIEA) is to enrich the university community's understanding and appreciation of diversity, practice of inclusion, advancement of equity, and integration of access. ODIEA is committed to promoting diversity in every sector of SDSU and the Brookings community. ODIEA leads and facilitates the development of institutional policies and protocols intended to create a more representative, equitable, and inclusive university. The ADA Coordinator, as part of the ODIEA, guides SDSU's efforts to comply with the Americans with Disabilities Act (ADA) and move towards seamless access and inclusion of individuals with disabilities. As the primary planning coordinator for SDSU disability-related initiatives and procedures, the ADA Coordinator helps to address accessibility issues, conduct trainings, inform compliance-related decision making, and be a resource for questions and concerns about university-wide services, policies, and accommodations for individuals with disabilities, including students, faculty, staff, employees, and visitors.. For more information about diversity events around campus, please view the calendar of events.

LGBTQA+ Resources

*GSA Office - Student Union 055*

## Parking Services

1601 Stadium Road - SDSU Campus

605-688-7275

Transportation Services Email

The SDSU Transportation Services Office is responsible for the administration and enforcement of the Parking & Traffic Regulations. To order a parking permit, view and edit vehicles associated to your permit, or to view, appeal or pay citations, please login to your Online Parking Account.

### Parking Rules & Regulations

The SDSU Parking Rules and Regulations have been recommended and approved by the SDSU Parking and Traffic Committee, the Vice President of Finance & Business and the final approval of the President of South Dakota State University. To better familiarize yourself with parking on campus and to avoid citations, please review the Parking & Traffic Regulations prior to parking your vehicle on campus.

## Printing Services

Yeager Hall

605-688-5111

Printing Services Email

SDSU Printing Services provides complete printing solutions for the campus community and its affiliates. We offer excellent service at competitive prices. Our experienced professionals are dedicated to providing quality work for the SDSU community.

With the advent of desktop publishing programs, creating publications such as newsletters, brochures, posters, flyers, etc., has become much easier. Generally a project designed in-house does not necessarily mean it is "print ready", nor does it mean it meets the graphic standards of university materials.

The Office of University Marketing and Communications is charged with overseeing logo usage and university trademarks, for both internal and external audiences. Projects being produced at Printing Services must first be routed through University Marketing and Communications to be approved or files prepared for printing.

A recent extension of the Print Lab, the SDSU Imaging Center is housed in the same building and uses state-of-the-art technology to bring new imaging capabilities to campus. 3D printing, laser engraving, mechanical cutting and printing on adhesive substrates are just a few of the options available to help students create more realistic and professional projects, and accommodate the innovation of new ideas to support the faculty and staff as well.

Printing Services is also in the process of installing, tracking and maintaining a number of networked student facing print devices throughout campus. Students can 'print" files to the cloud and securely release them by swiping their MyJacks card at the print terminal. This is commonly referred to as "follow me" print. Files can also be deleted thereby saving students the cost of printing them.

## Registrar

Enrollment Services Center

605-688-6195

Records and Registration Email

This one-stop-shop for university records stores all official information on enrollment and grades. But that's not all we do. Aside from keeping track of 12,000-plus students, the Office of Records and Registration also coordinates class schedules, maintains WebAdvisor (every student's online portal of information), processes transcripts and assists students in the very important task of updating their own information, including address and name changes.

Records and Registration Forms

## Residential Life

Caldwell Hall 167

605-688-5148

Residential Life Email

Residential Life provides students with opportunities to grow personally, become globally aware, succeed academically, and realize answers to their questions in a residential campus setting. Residence halls include furnished rooms, lounge areas, kitchens and laundry facilities. In addition, the residence halls are located close to most academic buildings, dining options, and SDSU activities and events. The residential experience is also a great way to meet other students; with an open mind and an open door, students can develop lifelong friendships.

Apply for Housing

Housing Costs/Options

Residential Life Handbook

### Living Learning Communities

Living-Learning Communities at SDSU provide an environment for residents to connect their academics with life outside the classroom. Students who are accepted to live and participate in these communities have the opportunity to live with others whose academic interests match their own, be supported both academically and socially through intentional programs geared toward their learning community, and interact meaningfully with faculty and staff members.

## Student Complaints

South Dakota State University's primary objective is to assist students meet their academic goals through a positive and rigorous academic experience. In the case that a student has a concern, the University's procedures should be followed to address these concerns and/or complaints. We strive to resolve these issues at the University level quickly and fairly.

## Students' Association

University Student Union 128, Box 2815

605-688-5181

The Students' Association is the official student government association of SDSU. The SA Senate is made up of representatives from each academic college and meets every Monday night at 7:00pm in the Lewis & Clark Room of the Student Union.

SA is the voice of the students of SDSU. As such, SA serves as a liaison between the student body, administration, the South Dakota Board of Regents, the state legislature, the city of Brookings, and other stakeholders.

All SDSU students who pay the General Activity Fee (all students enrolled in on-campus credits) are members of the Students' Association. The SA Senate is comprised of representatives from each academic college as well as the student body. President and Vice President. The SA Senate meets weekly on Monday's at 7:00pm in the Lewis & Clark Room of the Student Union to hear student concerns, talk about important campus issues, debate new policies, pass legislation, and allocate student fees. All SA Senate meetings are open to the public.

## Student Conduct

Caldwell Hall 167

605-688-5148

The function of Student Conduct is to sustain a quality educational environment throughout campus. SDSU has specific rules and regulations, as well as general guidelines for good citizenship and responsible behavior. The primary purpose of these standards is to protect the rights and property of all persons within the University community, and to ensure student success.

Student Academic Misconduct and Academic Appeals

Student Code

## Student Employment

Student Union 136

605-688-4425

A variety of part-time job opportunities, both on- and off-campus, are available for students during the academic year and summer. Employers on campus and in the community rely on students to fill their workforce needs and offer flexible work hours to accommodate students' schedules. The SDSU Office of Career Development partners with the South Dakota Department of Labor and Regulation (SDDLR) to provide students assistance with their job search. Two online job boards available to students are:

- Handshake, offered by Career Development. Students should use their MyState credentials to log in and search jobs.

- South Dakota Works, offered by SDDLR.

Please contact the Office of Career Development for more information.

Payroll Office: Morrill Hall 306, 605-688-5781

### Graduate Assistants

605-688-4173

Graduate Assistants Email

Assistantships for graduate students provide outstanding students with financial resources to help them complete their degrees. Assistantships offer varying educational and professional benefits. The Graduate School administers and oversees the Guidelines for Graduate Assistantships.

### Work Study

605-688-4695

Work Study Email

The Federal Work-Study Program provides eligible students the opportunity to earn money for educational expenses. To be considered for Federal Work-Study, students must complete the FAFSA on or before March 1 and they must select that they are interested in Work Study on their FAFSA. Students are responsible for obtaining employment to earn their Work-Study funds. Students are encouraged to inquire directly with any departments or facilities which they are interested in working at. If students should need assistance obtaining a Work-Study position, they can contact the SDSU Department of Labor Office at (605)688-6668.

## Student Legal Aid

Student Union 128

605-688-5181

Student Legal Aid Email

The SDSU Students' Association employs legal counsel, who can provide legal aid to students. This legal counsel cannot go to court with you, however, they can advise you on legal practices. They can assist you with rental agreements, citizenship procedures, and other legal matters. Academic year hours are Wednesdays between 10:00 - 3:00. Summer hours are by appointment only. To book an appointment, please stop by or call the Students' Association Office or send an email. After visiting the legal aid, please fill out this form to share your experience.

## Student Ombudsperson

Morrill Hall 312

605-688-4493

In the role of the "Ombuds," the Dean of Students acts as a mentor or arbitrator rather than a conduct hearing officer. The goal is to help a student resolve an issue before it becomes a problem.

What does an Ombuds Office do?

- Listens to problems and concerns
- Reviews possible options
- Explains policies and procedures
- Provides information regarding available resources
- Provides information about formal and informal grievance reporting options
- Makes referrals
- Facilitates communication between people

What an Ombuds Office does NOT do:

- Take sides in a dispute
- Determine guilt or innocence
- Give legal advice
- Offer psychological counseling
- Participate in any formal grievance process
- Represent or advocate for any individual or group

## Student Outcome Data

In keeping with federal requirements and other expectations of accreditation, the Higher Learning Commission (HLC) requires that student outcome data be made public and available to students and their families. To satisfy this requirement the following data is to be made public: graduation rates, retention rates, licensure rates, and data about students after graduation (such as graduate school enrollment, employment, etc.) for undergraduate and graduate-level students, and other similar information.

## Support Desk

Morrill Hall 131

605-688-6776

Support Desk Email

The Support Desk provides free technology support for students, staff, and faculty. They are able to help with computer issues, gaining internet access, software and programming issues, and other technology issues. If you have any technology-based problems or any technology related questions, contact the Support Desk at 605-688-6776.

## Sustainability

Facilities & Services

605-688-4136

Sustainability creates a society that can provide for itself today and for future generations. To accomplish this, sustainability considers three deeply interconnected concepts: environmental health, social equity, and economic vitality. Maintaining environmental health means to preserve, restore, and utilize of the earth's natural resources in a way that does not inhibit ecological services, remove resources faster than they can be replenished, or harm the surrounding environment. Social equity works to ensure all people have access to basic human needs, such as, quality education, sufficient healthcare, proper sanitation, shelter, a meaningful livelihood, access to nutritious food, and the opportunity to pursue aspirations. Finally, economic sustainability looks to maintain a viable economy. When all three pillars are considered, we have a healthy planet, supportive communities, and a thriving economy.

By including sustainability on campus, SDSU joins the world's efforts to provide a better future. Here at SDSU, Facilities & Services – Sustainability promotes and encourages sustainable lifestyles through the integration of sustainability concepts in academics, engagement, operations, and administration.

All students play an important role in improving SDSU sustainability. Each student is encouraged to practice sustainability in their daily Jackrabbit life from doing simple actions like recycling and using a reusable water bottle to more committed actions like commuting to campus by bike or enrolling in the sustainability minor program. Students interested in getting more involved in campus sustainability efforts should contact the Sustainability Specialist. To learn more about SDSU sustainability efforts visit the sustainability website

*** Recycling also plays a role in campus sustainability. While living in the residential halls, students are responsible for properly recycling and for emptying their recycling bins in the outside recycling dumpsters. Please do not bag your recyclables, but instead place the items directly into the dumpster. Recycling bins should not be removed from rooms. Students living off campus should work with their property manager regarding how to recycle. Students owning their home can request a recycling bin from the City of Brookings.

## Technology

MyState is used for changing your minor, applying for graduation, and has many other useful shortcuts.

D2L is SDSU's online learning platform which provides access to course materials.

WebAdvisor is used for accepting financial aid, registering for classes, and paying tuition bills.

ConnectState is used to make advising appointments, send messages to instructors or advisors, and access information about courses, progress reports and campus resources.

Jacks Email is your official University email that can be used for writing messages, keeping a personal address book, organizing your schedule and saving important documents, pictures, messages and contacts with unlimited amount of storage.

Student wireless network can be accessed through the SDSUStudent network with an active student account.

For technology support and technology related questions, please contact the Technology Support Desk at 605-688-6776.

## Testing Center

1100 College Ave.- SDSU Campus

*605-688-6460*

Testing Center Email

The Testing Center's mission is to assist you in reaching your academic and professional goals by providing you with a secure, friendly and comfortable place to take your exams. They have several workstations in private, semi-private and small group settings that are quiet and distraction free. Appointments can be made for placement exams, CLEP exams, online exams, accommodated exams and make-up exams through the online appointment site Register Blast, which can be found on MyState. Payment to have prior learning credit (i.e., CLEP credit, IB, etc.) placed on your transcript can now be made online at MyState under the Application for Placement Credit Form tab. The Testing Center is located south of the Dairy Bar, between the Barn and Ag Hall.

## Transfer Policy

You are considered a transfer student if you have college credits from an accredited institution and are six or more months beyond high school graduation. The SDState Admissions Office processes applications on a rolling basis. Students are encouraged to apply in advance of the semester they wish to attend in order to arrange housing, apply for financial assistance and attend New Student Orientation.

## TRIO Student Support Services

Larson Commons 104

605-688-6653

TRIO Student Support Services (SSS) is designed to provide a supportive community for students in transition to college. Our enthusiastic staff provide various support services to promote each participant's personal, academic and professional achievement. These supports include advising, academic resources, peer mentoring, career planning and involvement opportunities. TRIO serves first-generation college students, students who meet income qualifications, and students with a disability. To benefit from TRIO's services, please call 605-688-6653, or fill out the TRIO SSS Application.

## University Police Department

University Police Department

605-688-5117

University Police Department Email

The University Police Department serves an important role in the safety and security of the campus community. We have assembled a strong team of law enforcement professionals, communications specialists, and student patrol officers to provide for a safe and secure environment. Our law enforcement division includes the Chief of Police, Deputy Chief, 3 Sergeants, 1 Corporal, 8 full time police officers and 4 part time police officers. Collectively, our full time law enforcement staff represents more than 150 years of experience and thousands of hours of advanced law enforcement and public safety training.

Firearm Storage Information

Jackrabbits Guardian

- Setting up friends and family as guardians
- Creating a Safety Timer Session
- Emergency Call Button

## University Student Union

University Student Union (USU)

605-688-4960

Designed with students in mind, the SDSU University Student Union in the heart of campus is constantly buzzing. This Union is so much more than meeting rooms. Where else can you grab a bite to eat, curl up with a good book next to the fireplace, buy books and clothes, check your email, or dance the night away with a few hundred of your closest friends—all in one place?

### Student Activities

University Student Union 136

605-688-4425

sdsu.studentactivities@sdstate.edu

Located in the center for Student Engagement, Student Activities (OSA) is the go-to place for student involvement opportunities. We offer support to more than 240 student clubs and organizations, help students start new clubs, and maintain Jacks Club Hub, SDSU's official information headquarters for student organization information and events. OSA is also home to Fraternity & Sorority Life, (FSL); University Traditions, Hobo Day, and State A Thon; Student Media outlets, *The Collegian* newspaper and KSDJ radio and University Program Council, the primary student event planning organization.

### BluePrint

Student Union 056

605-688-5496

BluePrint Email

BluePrint is a student-driven design and print center that is committed to customer service and quality design and print products. Interior banners, exterior banners, T-stands and digital displays in The Union are all advertising areas reserved and designed by staff. BluePrint can assist with any walk-in printing needs along with custom orders such as logo design (logo books), buttons, brochures, event programs and invitations. Located in the lower level of The Union, we have a homework-printing station for convenient and fast printing needs.

### Central Reservations

Student Union 150

605-688-4022

Central Reservation Email

Central Reservations, located in the Student Union, provides reservation services for students, staff, alumni, and guests. To make a reservation, call 605-688-4022 or email sdsu.centralreservations@sdstate.edu to schedule your event today.

### Event Services

Student Union 150

605-688-4960

Event Services strives to provide SDSU students, faculty, staff, and the surrounding community with friendly, efficient and dependable full service special events, meeting and conference coordination. Our goal is to provide accurate and efficient reservation information and scheduling, and to educate them about the planning process. This will help ensure a successful event as well as provide the individual with the resources necessary to plan and execute events successfully.

### Information Exchange

Student Union 150

605-688-6127

Information Exchange is located on the Main level of the University Student Union near the west entrance. We offer sales and services such as faxing, cashing checks, laptop rental, poster approval, stamp & envelope sales, campus maps, event ticket sales, and hunting and fishing license sales. Information Exchange attendants can also assist you with meeting room reservations and advise you on the event planning process.

### State Tech

Student Union 150

605-688-4960

State Tech provides party packages at affordable prices, quality PA concert sound systems to make your event a success, as well as professional lighting so it can be seen. State Tech operates and maintains lighting, stage and sound equipment to service students and University needs across campus ranging from lectures, dances, movies and major concerts.

## Verification of Student Identity

SDSU requires that students utilize a secure username and password to access their online courses through the course management system, Desire2Learn (D2L). Students enrolled in SDSU online courses may incur additional costs associate with online learning; such as, but not limited, test proctoring and technology (software/hardware). Any requirements regarding proctoring or other tools of verification will be noted in the course syllabus and/or outline. Click here for more information regarding online tuition and fees.

## Veterans Affairs

Brown Hall 134

605-688-4700

Veterans Affairs Email

The mission of South Dakota State University Veterans Affairs Office is to assist military veterans, their family members and their survivors in obtaining all federal and state educational benefits and entitlements they have earned by serving in the United States military, and to provide guidance and support services that will aid veterans in their transition to academic and civilian life. Veteran Affairs office hosts events throughout the school year to provide connection and comradery with fellow student veterans and services members.

South Dakota State became the state's first, and the nation's ninth Purple Heart Campus. A dedication ceremony was held at Grove Hall on November 9, 2018. Honored attendees were students, staff, retired faculty and community members who have received Purple Hearts.

## Miller Wellness Center

Miller Wellness Center

605-697-9355

Wellness Center Email

The Miller Wellness Center is dedicated to supporting academic success and personal development by promoting and encouraging a healthy lifestyle for the members of the SDSU community. The Miller Wellness Center houses state of the art fitness equipment, a variety of recreational and intramural programs, effective wellness education, and a student health clinic and counseling services.

Wellness Center Policies and Guidelines

South Dakota State University Wellness Center Assumption of Risk, Waiver of Liability, Indemnification and Release Agreement, and Consent to Medical Treatment

Wellness Center Employee Application

### Fitness and Recreation

Miller Wellness Center

605-697-9355

The Miller Wellness Center provides access to many services and opportunities to help you meet your goals and have fun doing it! We offer Sport Clubs, Intramurals, Nutrition Services, Outdoor Programs, Group Fitness, Personal Training, and Youth Camps. Be sure to check out the details and contact us with any questions!

### Student Health Clinic and Counseling

Miller Wellness Center

605-688-4157

The mission of South Dakota State University Student Health Clinic and Counseling Services is to promote the health and wellness of the university community, to enhance student retention, and to support the academic and personal success of all students. Appointments are also available online by going to your MyState account and accessing your Jackrabbits Health Clinic and Counseling Portal. The Student Health Clinic and Counseling Services provides primary care, reproductive health, adult immunizations, vaccines, nutrition counseling, and counseling services.

Immunization Requirements & Forms

### Insurance Billing

Miller Wellness Center

605-688-6900

The Student Health Clinic charges for all services incurred at the clinic and will submit charges to participating insurance companies. Examples of charges include: office visits, lab work, injections, physicals, and procedures. You will be required to provide a current copy of your insurance card at the time of your visit. For questions about billing at the Student Health Clinic please see our insurance page.

### You@SDState

You@SDState emphasizes individual well-being and self-awareness in order to connect students to information, campus resources, peers and opportunities. From academics and social life, to mental and physical health, You@SDState is a new kind of solution, focused on skill-building for holistic wellness rather than specific deficiencies. Depending on the need, the want, or the will, students can connect with hundreds of pieces of content within each section of You@SDState. Students can also use the system-wide search function to locate more specific assistance in the moment.

### Jackrabbit Pharmacy

Miller Wellness Center

605-688-5410

The SDSU Jackrabbit Pharmacy serves all eligible SDSU students, faculty/staff, and their family members. The SDSU Jackrabbit Pharmacy accepts prescriptions from doctors outside of the student health clinic. We offer competitively priced over-the-counter and prescription medications.

## Wintrode Student Success Center

Wintrode Student Success Center

605-688-4155

Wintrode Student Success Center has put together *a* Study Hub that has tips and resources for students.

Academic advisors provide students assistance with course placement, support with adjusting to campus, and Banner and course registration help. Academic advising is completed through the college in which your degree program falls. You can view degree requirements, South Dakota Board of Regents' requirements, institutional requirements, and academic policies through the SDSU Online Catalog.

### Academic Success & Recovery

The Academic Success & Recovery Program supports students who are currently on probation or have been readmitted to South Dakota State University following suspension due to low academic achievement. Program participants in the Academic Success & Recovery Program are enrolled in either ACS 011 - Strategies for Academic Success, or ACS 140 - Academic Recovery.

### Early Alert

Early Alert is a communication process through which faculty will keep you and your advisors informed about your progress in your courses. If you receive a Performance Notification email from a professor, contact that professor or your academic advisor for assistance with improving your outcomes in that course.

### First Year Advising

First-year students, other than the two-year agricultural sciences program, human biology, pre-nursing, pre-pharmacy, and medical lab science will be advised in the First-Year Advising Center. First Year Advising can help guide you through the many questions and decisions of academic life. They are there to help you explore major and career options and to create plans that will help you achieve your goals.

### Supplemental Instruction

Supplemental Instruction (SI) is a series of weekly review sessions for students enrolled in historically difficult courses. Through SI you will work with other students to discuss important course concepts, develop strategies for studying, and test yourself before the professor does so you are ready for the exam. Students who attend SI earn, on average, one-half to one full letter grade higher than students who don't participate.

### Tutoring

The Wintrode Tutoring Program offers free tutoring services to students in select courses to help students improve their understanding of course material, improve their grades, and increase their self-confidence in relation to course material. Tutors will help you to better understand course content and help you develop study strategies to use in current and future courses at SDSU.

How to Schedule an Appointment

## Writing Center

Briggs Library 103

605-688-4155

The SDSU Writing Center serves all students enrolled in the university, both graduate and undergraduate. Students can chat about an essay for a composition or history class, a research paper, abstracts for a human development or sociology paper, or a job or graduate school application letter-in short, any type of writing that they have concerns about. Consultations take place during any stage of the writing process - from determining the ideas, focus, and framework to citing sources and figuring out how semi-colons work and polishing the style.

Schedule an Appointment

OUTDOOR
PROGRAMS

STUDENT
ENGAGEMENT
SDSU JACKS

SDSU
ice cream

THOMAS A. DASCHLE
Oversized

# Policies & General Academic Information


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This section outlines academic policies as well as general information related to academics at South Dakota State University. The South Dakota State University Policy and Procedure Manual is the definitive source for the most current South Dakota State University policies. Policies duplicated on other websites or in print may not be the most current version. All policies documented on the site are official and supersede policies located elsewhere. South Dakota State University is governed by state and federal law, administrative regulations, and policies of the South Dakota Board of Regents (SDBOR) and the State of South Dakota.

# Academic Advising

South Dakota State University's mission is to offer a rich academic experience in an environment of inclusion and access through inspired, student-centered education, creative activities and research, innovation and engagement that improve the quality of life in South Dakota, the region, the nation, and the world. Quality advising is integral to this mission and the overall success of SDSU students. In support of the mission, SDSU offers students a comprehensive advising model grounded in collaboration between professional academic advisors, student success advisors and faculty advisors in academic departments. Each student is assigned an academic advisor and is asked to meet with this advisor at least twice during the academic year to plan for future course enrollment. Students are encouraged to meet with their advisor frequently to review degree progress, discuss professional and personal goals, ask questions, and request support with academic and personal challenges.

## Purpose of Academic Advising

Academic advising is a teaching and learning process through which students learn to become members of their higher education community, to think critically about their roles and responsibilities as students, and to prepare to be educated citizens of a democratic society and a global community (National Academic Advising Association, 2006). Through a holistic approach, advisors help students explore, identify, and accomplish personal and professional goals. The advising process at SDSU is a shared responsibility between the student and the advisor.

## Goals of Academic Advising

1. Assist students in the exploration and definition of immediate and lifelong goals.
2. Encourage students to explore and engage with beneficial experiences to enhance their university experience and contribute to the world around them.
3. Inspire students to understand their freedom of choice and accept their responsibility for academic progress and planning.

## Role of the Advisee

The advisee role in academic planning is to be involved, responsible, and committed to understanding academic requirements. Advisees also should develop academic, career and personal goals and implement related action steps.

## Rights of the Advisee

1. The right to an advisor who fulfills the SDSU advising goals, role, and responsibilities.
2. The right to know and have timely access to an assigned advisor.
3. The right to protection and review of academic advising-related files and materials in accordance with the Family Educational Rights and Privacy Act (FERPA).
4. The right to receive pertinent and accurate information as needed for career, academic, and employment planning.
5. The right to request a change of academic advisor assignment.
6. The right to clear procedures for conveying concerns relative to the quality of academic advising.

## Responsibilities of the Advisee

1. Initiate regular progress appointments and seek advisor assistance when concerns or questions arise.
2. Develop and make timely progress on academic and career plans.
3. Understand and meet university, college, and departmental graduation requirements.
4. Follow through on activities, tasks, or requirements as discussed with advisor.
5. Recognize that the ultimate responsibility for timely completion of degree and academic requirements rests with the advisee.

## Role of the Academic Advisor

The academic advisor's role is to promote student growth and development while assisting with degree completion. Advisors should be knowledgeable in academic programs and university requirements and should assist students with setting and achieving goals related to course registration and degree planning, campus engagement, academic performance, and financial well-being.

## Responsibilities of the Academic Advisor

1. Facilitate Relationship Development. Be available to students, provide opportunities for students to share their goals, questions, and concerns in a confidential setting, and create relationships grounded in challenge, support, and mutual respect.
2. Recognize Diverse Needs. Create an environment that invites diverse perspectives, allows for open exchanges of information, and values diverse cultures.
3. Enhance Advising through Use of Technology. Utilize advising technologies including ConnectState (EAB Navigate) as the primary advising tool, Banner Self-service, Self-service Consumer (Cognos) Reports, and WebNow to provide targeted advising support for students.
4. Furnish Accurate Information. Provide students with accurate information about university, college, and departmental graduation requirements, and assist them with selecting and registering for appropriate courses that meet those requirements.
5. Refer to Campus and Community Resources. Provide students with accurate information about campus and community resources, and encourage them to use these resources as appropriate.
6. Maintain Advisee Records. Keep current advisee records and personal information in accordance with confidentiality requirements, using ConnectState as the primary tool for documenting advising interactions.
7. Encourage Timely Progress Toward Degree. Advocate timely planning and progress toward educational goals. Communicate regularly with advisees regarding university policies, procedures, and deadlines that impact progress toward degree.
8. Encourage Advisee Growth. Encourage students to engage in university experiences and opportunities that help them become self-directed and self-sufficient learners.
9. Support Student Success and Retention. Assist with achieving equitable student outcomes by responding to students' unique academic challenges as identified through early alert, midterm deficiencies, and other communication. Engage students in individualized conversations and activities to increase the probability of degree completion.
10. Develop Advising Knowledge and Skills. Participate in professional development activities that will enhance advising knowledge and skills.

# Academic Amnesty

(SDSU Policy 2:9, SDBOR Policy 2:10.7)

This policy and its procedures implement SDBOR Policy 2:10. The goal of academic amnesty is to respond to the academic needs of individuals as they develop newly identified potential. Through the application of academic amnesty, the student's prior academic record can be excluded from current work under certain conditions.

## Policy

a. To be eligible, the student must:

i. be an undergraduate, full-time or part-time, degree-seeking student at the University;
ii. not have been enrolled in any postsecondary institution for a minimum of three (3) consecutive terms (including only fall and/or spring terms) prior to the most recent admission to the home institution. Exceptions may be granted in rare cases only by the SDBOR Vice President for Academic Affairs upon recommendation by the University Provost/Vice President for Academic Affairs;
iii. have completed a minimum of twelve (12) graded credit hours taken at any Regental university with a minimum grade point average of 2.0 for the twelve (12) credit hours after the most recent admission to the home institution;
iv. not have earned a baccalaureate degree from any university;
v. not have been granted any prior academic amnesty at any Regental university;
vi. submit the Academic Amnesty Petition Form to the Records and Registration Office following the procedures established by the University.

b. Conditions:

i. Academic amnesty does not apply to individual courses.
ii. Academic amnesty may be requested for either (a) all previous post-secondary education courses, or (b) all previous post-secondary education courses at a specific post-secondary institution, or (c) a specified time period not to exceed one (1) academic year (Fall/Spring) completed at any postsecondary institution(s).
iii. Academic amnesty, if granted, shall not be rescinded.
iv. Courses for which academic amnesty is granted will:

1. Remain on the student's permanent record;
2. Be recorded on the student's undergraduate transcript with the original grade followed by an asterisk (*);
3. Not be included in the calculation of the student's grade point average because no credit is given;
4. Not be used to satisfy any of the graduation requirements of the current degree program.

v. Academic amnesty decisions will be made the student's home institution, will be honored by all undergraduate programs within the home institution, and will be honored by all undergraduate programs at other institutions within the South Dakota Regental system.
vi. Universities outside of the South Dakota Regental system are not bound by the academic amnesty decisions made by the South Dakota Regental system.
vii. Regental undergraduate programs and graduate professional schools may consider all previous undergraduate course work when making admission decisions.

### Procedures

a. The student completes the Academic Amnesty Petition Form. Attach any letters, transcripts or documentation that would be pertinent to the petition.
b. Student returns completed petition to the University's Records and Registration Office for review.
c. If the student meets all of the requirements for academic amnesty the completed and reviewed petition will be forwarded to the student's Academic Advisor for review and signature. The advisor will forward to the Provost and Vice President of Academic Affairs or designee for review and approval.
d. Once all approvals/signatures are secured, it will be returned to the Records and Registration office by the Office of Academic Affairs.
e. A letter will be sent to the student notifying of approval.
f. If the student does not meet the requirements for academic amnesty, the student will be contacted by the Records and Registration Office and notified of which requirements were not met.
g. If a student is determined to not be eligible for academic amnesty due to not meeting requirement 2.a.ii

i. If the student would like to request an exception due to not meeting requirement 2.a.ii, resubmit the completed petition and any supporting documentation to the Office of Academic Affairs for consideration.
ii. The Office of Academic Affairs will notify the student of the decision.
iii. Exceptions are considered when the student does not meet requirement 2.a.ii. If other requirements are not met, exceptions are not considered.

## Academic Integrity & Academic Appeals

(SDSU Policy 2:4, SDSU Policy 3:1, SDBOR Policy 2:33, SDBOR Policy 3:4)

South Dakota State University has taken a strong and clear stand regarding academic dishonesty. Academic integrity embodies ethical principles to act responsibly and take responsibility for one's actions. Integrity and honor function as forms of a "social contract" where individuals have a duty to follow the rules and norms of academia as well as a duty to ensure their peers also follow such rules and norms. Undergraduate and graduate students at the University are expected to maintain the highest standards of academic conduct; if violated, the University takes a strong and clear stand regarding academic dishonesty. The consequence of academic dishonesty ranges from disciplinary probation to expulsion. For additional information on the academic dishonesty and academic appeals process and procedure reference SDSU Policy 2:4, SDSU Policy 3:1, SDBOR Policy 2:33, and SDBOR Policy 3:4.

## Academic Performance & Progression

Each student is responsible for satisfying requirements for graduation as listed under overall university, college, and major field requirements. If a student has questions concerning the proper satisfaction of specific requirements, he/she should consult with the dean, major adviser, or the Registrar.

### Class Standing Definitions and Progression Standards

(SDBOR Policy 2:10.4)

#### Minimum Progression Standards

Minimum progression standards and related actions are based on the student's cumulative grade point average and system term grade point average.

**Good Academic Standing**

A student, who meets or exceeds the cumulative grade point average requirements as listed, is considered to be in good academic standing. The Academic Standing process is completed at the end of the Spring Term. The required GPAs are based on credit hour completion. Students who have taken more credit hours are expected to meet a higher GPA standard.

| Credit Hour Range | GPA Standard |
|---|---|
| 0-44.99 | 1.8 |
| 45-90+ | 2.0 |

**Academic Probation**

If a student's cumulative grade point average falls below the GPA standard for his/her designated class rank at the end of the Spring academic term, the student is placed on academic probation for the following term.

While on academic probation the student must earn a system grade point average that meets or exceeds the GPA standard required. During this period, the student’s academic success team (as determined by the institution) is expected to monitor and meet with the student to best position him or her for success.

When a student on academic probation achieves a cumulative grade point average that meets or exceeds the GPA standard, the student is returned to good academic standing.

Students enrolling in the Regental system for the first time with prior credit, including transfer students and dual credit students, shall not be placed on probation by their designated home institution until they have been enrolled at a Regental university for one (1) academic term. Once the one (1) academic term has been completed, students are expected to meet the GPA requirements outlined in SDBOR Policy 2:10 for establishing Good Academic Standing.

**Academic Suspension**

A student on academic probation who fails to maintain a term and/or cumulative grade point average that meets or exceeds the GPA standard required by the next Academic Standing process as described above is placed on academic suspension for a minimum of two academic terms.

A student on academic suspension will not be allowed to enroll for any coursework at any Regental university except when an appeal has been approved by the Regental university from which the student is pursuing a degree. An approved appeal granted by one Regental university will be honored by all Regental universities. (Also refer to SDBOR Policy 2:3, section C.9.7 Students on Probation/Suspension).

Only Academic Suspension will be entered on the student's transcript. Academic probation will be noted in the internal academic record only.

### Rate of Progress

Each student is advised by a member of the faculty or professional staff. Classes consistent with your plan of study and properly adjusted as to the amount of work are arranged by the adviser and subject to approval by the dean.

The normal rate of progress for a student classified as an undergraduate is 15 semester credits and 30 grade points each semester. To be a full-time student, undergraduates must carry 12 semester credits. Undergraduates are not permitted to register in 19 or more semester credits the first term. Registration in 19 or more semester credits in subsequent terms is permitted only when the previous semester's work shows high achievement.

All overloads of 19 or more credit hours must be approved by the dean or designee of the student's college. Factors to consider when requesting a credit overload include: grade point average (minimum 2.70 cumulative grade point average), total credits attempted and completed, specific courses, and time to graduation.

### Withdrawal

(SDSU Policy 5:28, SDBOR Policy 2:4; SDBOR Policy 2:4:1, SDBOR Policy 2:6.8, SDBOR Policy 2:33, SDBOR Policy 5:5, SDBOR Policy 5:7)

Those finding it necessary to withdraw from the University are urged to consult with a faculty advisor to work out the best plan possible and then contact the Registrar's Office, Enrollment Services Center to process a withdrawal. Those who leave the University without processing an official withdrawal will be reported as having failed the semester's work. Grades transcripted are based on the withdrawal date. A student may withdraw from the University until 70% of instruction has been completed (Contact the Registrar's office for date information). After that date, if extenuating circumstances (i.e., illness) have prevented class participation, a petition for withdrawal may be filed through the Office of Academic Affairs.

A student is considered withdrawn during a term if classes have begun and:

1. The student has registered for at least one course and the student has initiated withdrawal from all on-campus and off-campus courses at all Regental universities in which the student was actively enrolled at the time of withdrawal, including courses in progress as well as those that have not yet begun, or;
2. The Regental Home University has completed withdrawal procedures for administrative reasons including, without limitation, non-payment of tuition and fees or disciplinary sanctions.
3. Students enrolled in two or more Regental universities pursuant to financial aid consortia will be eligible for refunds as set forth herein only if they withdraw, drop out or are expelled from all classes at all Regental universities for which they have enrolled.

Students who withdraw or are administratively withdrawn, suspended or expelled from the Regental system within the drop/add period receive a 100 percent refund of tuition and per credit hour fees. Students who withdraw or are administratively withdrawn, suspended or expelled from the Regental system after the date the first 10 percent of the term ends for the period of enrollment for which they are assessed may be entitled to a refund per SDBOR Policy 5:7.

## Academic Recognition

### Dean's List Designation

(SDBOR Policy 2:10.8)

Undergraduate, full-time students may be designated for the Dean's List at the end of the fall and spring terms. The Dean's List designation is determined by the home university and is based on a student's total course registrations for academic credit for the term from any Regental university. The Dean's List designation does not appear on the transcript.

To be awarded Dean's List designation, students must meet the following guidelines.

1. Students must have earned a minimum of twelve (12) credit hours in courses numbered 100-699 during the term.
2. Students must achieve a System Term GPA of at least 3.50.
3. Students with F, I, U, RI, or RU grades are not eligible regardless of System Term GPA attained.

### Academic Recognition for Part-Time Students

(SDBOR Policy 2:10.9)

Undergraduate, part-time students taking fewer than twelve (12) credits per term may be designated for Academic Recognition for Part-Time Students at the end of the fall and spring terms. The Academic Recognition for Part-Time Students designation is determined by the home university. The Academic Recognition for Part-Time Students designation does not appear on the transcript. To be awarded the Academic Recognition for Part-Time Students designation, students must meet the following guidelines:

1. Students must have completed at least twelve (12) credit hours prior to the current semester at one or more Regental institutions.
2. The student must have earned at least three (3) and up to eleven (11) credit hours of 100-699 level courses during the term.
3. Students must achieve a System Term GPA of at least 3.50.
4. Students with F, I, U, RI, or RU grades are not eligible regardless of System Term GPA attained.

## Affirmative Action/Equal Opportunity Policy/Title IX

(SDBOR Policy 1:17, SDBOR Policy 1:17.1, SDBOR Policy 1:18, SDBOR Policy 1:19)

South Dakota State University has a well-established commitment to maintaining a campus environment free from discrimination and harassment, as articulated by federal and state law, and University policy.

### Non-Discrimination Policy

The University offers equal opportunities in employment and for access to and participation in education, extension, and other services at the University to all persons qualified by academic preparation, experience, and ability for the various levels of employment or academic program or other University service, without discrimination based on sex, race, color, creed, national origin, ancestry, citizenship, gender, gender identification, transgender, sexual orientation, religion, age, disability, genetic information, veteran status, or any other status that may become protected under law against discrimination.

The University, in conjunction with state and federal law and applicable SDBOR and University policies, is committed to the objectives of equal opportunity, nondiscrimination, and affirmative action. Redress for alleged violations of those laws may be pursued at law, or through the procedures established in SDBOR Policy 1:17 or Policy 1:18 through the University Director of Equal Opportunity and Title IX Coordinator.

Michelle Johnson, Ed.D., Director of Equal Opportunity and Title IX Coordinator & Affirmative Action Officer
South Dakota State University
Human Resources, Morrill Hall Room 100
Brookings, SD 57007
605-688-4128

### Harassment including Sexual Harassment Policy

Harassment is a particularly harmful and illegal form of discrimination that breaks down trust within the SDSU community and impedes the ability of students, employees, and others to participate in an environment that allows them to achieve their fullest potential. Furthermore, harassment is a violation of the expectation that every individual at SDSU deserves to be treated fairly, with respect for their dignity as a person.

### Prevention of Sexual Assault, Domestic Violence, Dating Violence, and Stalking Policy

State and federal laws and policies strictly prohibit sexual assault, domestic violence, dating violence, and stalking, often treating such actions as criminal offenses. Such misconduct is not permitted or tolerated at the University. SDBOR Policy 1:17 and its procedures set forth standards regarding reports of sexual assault, domestic violence, dating violence, and stalking and the consequences of engaging in such misconduct at the University.

### Non-Retaliation/Privacy

Complainants, respondents, witnesses, and other persons who have assisted, testified, or participated in any manner in any phase of a harassment or discrimination investigation will be protected against retaliation. SDSU's policy and applicable Board of Regents, state and federal regulations prohibit retaliation, coercion, harassment, interference and/or intimidation, or any other adverse action taken as a direct result of a complaint being brought forth.

All concerns are responded to and/or investigated in a highly sensitive manner. The privacy of the parties involved is protected. The process is neutral, impartial and fair.

### What You Can Do To Address Harassment or Discrimination

- If safe, approach the person you feel has discriminated against or has harassed you and communicate your concern directly, in person or in writing. Ask them to stop the concerning behavior or comments immediately.
- Report harassment or discrimination to the Director of Equal Opportunity and Title IX Coordinator (605-688-4128).

### Reporting Complaints

Concerns should be reported directly to the Director of Equal Opportunity and Title IX Coordinator.

Michelle Johnson, Ed.D., Director of Equal Opportunity and Title IX Coordinator & Affirmative Action Officer
Human Resources, Morrill Hall Room 100
Brookings, SD 57007
605-688-4128

SDSU has adopted a Compliance Hotline that offers two additional ways to report concerns, including the option to report anonymously, call 1-844-880-0004 or visit the web reporting website.

If a student or employee confides in you their concern, please encourage them to report the issue or you are required to report on their behalf. The University has a legal obligation to respond to issues, big and small, so SDSU requests that all concerns be brought forth. The University has many resources and wants to support the entire University community.

The complaint process is subject to the South Dakota Board of Regents policies listed below:

- SDBOR Policy 1:17 Sexual Harassment
- SDBOR Policy 1:17.1 Prevention of Dating Violence, Domestic Violence, Sexual Assault and Stalking
- SDBOR Policy 1:18 Human Rights Complaint Procedures
- SDBOR Policy 1:19 Equal Opportunity, Non-Discrimination, Affirmative Action

### What happens if a violation of the policy occurs?

The University will not tolerate discrimination, harassment, or retaliation that violates SDBOR or University policy. Where such violations are investigated and found to have indeed occurred, the University will take steps to end it immediately. An individual found to have engaged in discrimination, harassment, or retaliation will be subject to appropriate discipline, depending on the severity of the misconduct. Sanctions for employees include but are not limited to formal reprimands, suspensions without pay, reductions in responsibilities, and termination. Sanctions for students include but are not limited to disciplinary probation, suspension, and expulsion. SDSU will provide all involved parties with supportive measures to alleviate the negative effects of the harassment or discrimination allegations. Such measures may be academic, residential, employment, financial and/or transportation in nature.

### For More Information

For more information on the policies established to promote equal opportunity and eliminate discrimination and harassment at SDSU visit the website.

## Attendance Policy

(SDSU Policy 2:5, SDSU Policy 2:12)

### Policy

a. Teaching and learning is a reciprocal process involving faculty and students. Faculty members have an obligation of holding classes on a regular basis and students have an expectation to attend and participate in classes on a regular basis. Faculty members determine the specific attendance policy for courses under their direct supervision and instruction. Attendance procedures must be stated in written form, in the course syllabus, and distributed or posted electronically to students at the beginning of each course. If attendance is required and will impact grading, this expectation shall be included in the syllabus.

b. Any exceptions to the faculty member's written attendance policy due to verified medical reasons, death of a family member or significant other, or verified extenuating circumstances judged acceptable by the instructor or the Office of Academic Affairs, will be honored. Absences for vacations, breaks, or personal interviews do not constitute a valid reason for absence.
c. Faculty and administration will honor officially approved absences where individuals are absent in the interest of officially representing the University. Appropriate sanctioned activities include: Collegiate club sports and competitions; Conferences and workshops recognized by the University not related to academics; Commitments on behalf of the University (Students' Association, Band, Choir, etc.); Intercollegiate athletics; and Professional activities recognized by the University related to academics (professional conference attendance, etc.)
d. Students with official excused absences: Students with excused absences will be given appropriate make up work or instructor-determined equivalent opportunities for obtaining grades as students who were in attendance. Students with official excused absences are not to be penalized in course progress or evaluation. However, should excused absences be excessive, the faculty member may recommend withdrawal from the course(s) or award an incomplete grade.
e. Attendance policies apply in the online classroom. Faculty members determine the specific attendance policy for courses under their direct supervision and instruction. Attendance procedures must be stated in written form and made available to students on the first day of the course. Common strategies for demonstrating "attendance" in an online course include login requirements per week, an identified number of discussion postings per week, consistent contact with peers and instructor, and/or other assignments as determined by the instructor. Also, students are expected to login to their class on the first day of the semester.
f. Student-Athlete Class Attendance
   i. No student-athlete may be absent from more than ten (10) class sessions (including required laboratory sessions) of a given course in a semester.
   ii. Athletic excused absences will not be approved during final examination period with the exception of required conference or NCAA activities.
   iii. In the interest of safety for student-athletes and staff, missed class-time resulting from travel delays associated with inclement weather will be excused.

### Procedures

a. If a student has an accident, falls ill, or suffers some other emergency over which they have no control, the student needs to gather whatever documentation is available (e.g., copies of repair or towing bills, accident reports, or statements from health care provider) to show the instructor. Such exceptions must be communicated and negotiated between the student and faculty member prior to the absence whenever possible.
b. Requests for excused absences due to approved university-sponsored/recognized trips must be submitted one week prior to the trip or event. Students must present the completed approved trip absence card to the faculty member prior to the trip or event to have an official excused absence. Faculty members are not required to honor incomplete or late cards. Absences for trips or activities will not be approved during finals week.
c. Arrangements regarding attendance should be negotiated with faculty members. If this is not possible, the students should go first to the department head, and if necessary, next to the dean. The student may contact the Office of Academic Affairs if conflict cannot be resolved at these levels.
d. Waivers to the above rules, as they pertain to student athletes, require the approval of the Intercollegiate Athletics Board or its designee at the time of scheduling or as soon thereafter as is reasonably possible (if circumstances dictate the need for finalizing a contract or schedule prior to gaining Intercollegiate Athletics Board approval).

## Commitment to Freedom of Expression/Intellectual Diversity

(SDBOR Policy 1:32)

South Dakota State University is committed to the principles of expression protected by the First Amendment to the United States Constitution. Those principles include a commitment to freedom in learning, academic freedom, freedom of expression, and freedom of association. In addition, the University is committed to intellectual diversity - fostering a learning environment that exposes students to and encourages exploration of a variety of ideological and political perspectives. Any complaints about violations of this commitment can be made to the Director of Equal Opportunity and Title IX Coordinator.

## Complaints & Concerns

South Dakota State University's primary objective is to assist students meet their academic goals through a positive and rigorous academic experience. In the case that a student has a concern, the University's procedures should be followed to address these concerns and/or complaints. We strive to resolve these issues at the University level quickly and fairly.

### Academic Concern &/or Complaint

Where minor concerns arise, we ask students to raise these concerns with the instructor or appropriate staff member with the goal of resolving the issue at this level. If the concern is not resolved at this level, we recommend visiting with the appropriate Department Head and Dean as needed.

If a complaint cannot be handled through these channels, the students may address the concern/complaint formally through the Academic Affairs office.

Academic Affairs
South Dakota State University
Administration (SAD) 230
Brookings, SD 57007
Phone: 605-688-4173

Academic Appeals Policy

### Non-Academic Concern &/or Complaint

If you have concerns or complaints unrelated to academics, please select the appropriate option below based on the nature of your concern and/or complaint.

If your concern requires immediate assistance, please dial 911 or contact the University Police Department at 605-688-5117 (111 from any campus phone).

To make an online report, visit the web reporting website. You may also call the toll-free hotline at 844-880-0004. The online report and hotline are provided by Lighthouse Reports. You may choose to remain anonymous when providing information.

To make a report in person, please contact the Vice President for Student Affairs Office at 605-688-4493 or visit us in Morrill Hall room 312 or the Office of Title IX/EO at 605-688-4128 or visit us in Morrill Hall, room 100.

If you would like to talk with someone **confidentially** without making a report, please contact SDSU Counseling Services or Student Health Clinic at 605-688-4157.

Please visit Report It for additional information.

In addition, the following links provide more specific guidance on how to report a concern and/or complaint related to one of the below categories:

- EO / Title IX
- Crimes or Policy Violations
- Grievance Regarding Student Behavior (Contact Dean of Students)
- Grievance Regarding Residence Hall Student Behavior (Contact Community Assistant, Residence Hall Director, or University Housing & Residential Life Employee)

### State Regulatory Information

Any person may file a complaint with the Executive Director of the South Dakota Board of Regents to obtain a review and appropriate action on allegations that an institution governed by the Board:

- Violated South Dakota consumer protection laws;
- Engaged in fraud or false advertising;
- Violated South Dakota laws relating to the licensure of postsecondary institutions or programs;
- Failed to provide an educational program meeting contemporary standards for content and rigor;
- Failed to assign qualified instructors; or
- Violated one or more accreditation requirements.

Where the institution has not already considered and acted upon the complaint, the Executive Director will refer the matter to the institutional president for review and action. If the complainant challenges an institutional disposition of the complaint, the Executive Director will provide for an independent review and disposition of the allegations. The Executive Director may be contacted at:

The Office of the Executive Director of the South Dakota Board of Regents
306 East Capitol Avenue, Suite 200
Pierre, SD 57501-2545
Phone: 605-773-3455

### Consumer Protection

Allegations involving violation of consumer protection laws may also be filed with:

Office of Attorney General
Division of Consumer Protection
1302 E Hwy 14 Ste 3
Pierre, SD 57501
Phone: 605-773-4400, 1-800-300-1986 (in-state only)
Fax: 605-773-7163
Web: online complaint form

### Out-of-State Distance Education Students

Pursuant to the United States Department of Education's Program Integrity Rule, South Dakota State University is required to provide all prospective and current students with the contact information of the state agency or agencies that handle complaints against postsecondary education institutions offering distance learning or correspondence education within that state.

For students residing in a SARA state, the complaint must be brought to the institution's home state SARA portal entity. Students may submit complaints to the SD-SARA Portal Entity here.

For students in California, please contact the appropriate entity listed below.

- California Bureau of Private Postsecondary Education - Filing a Complaint

### SDSU's Accreditor Complaint Procedure

SDSU is accredited by the Higher Learning Commission (HLC), an independent corporation that was founded in 1895 as one of six regional institutional accreditors in the United States. SDSU's institutional accreditation along with program specific accreditation can be viewed on the University's Accreditation webpage.

For more information regarding filing a complaint with the Higher Learning Commission visit their website.

## Courses/Credits

### Add/Drop Procedure

1. Dropping or adding courses should be discussed with one's academic advisor. Courses can be dropped on Registration Self Service or in the Registrar's Office.
2. The drop/add period is the time period during which students may adjust their academic schedule for the term without financial or academic consequences. The last day of the drop/add period for a course is designated as the census date for that course and is the official date for enrollment reporting. The end of the drop and add period for standard and non-standard courses offered in a semester shall be the date the first 10 percent of the term ends or the day following the first class meeting, whichever is later. When calculating 10% of the term, breaks of five or more days are not included when counting the total number of days but Saturdays, Sundays, and holidays are. Student registrations can only be added to courses after the end of the drop and add period by approval of the chief academic officer (or designee) of the university.
3. **Do not discontinue enrollment in a class without processing discontinuance via the official drop procedure. An "F" will be recorded for an unofficial drop.**

#### Grades for Dropped Courses

Undergraduate and graduate students who drop a course shall receive a withdrawal grade if that action occurs anytime between the day after the census day for that course and the day that corresponds with the completion of 70 percent of the class days for that course.

Beginning with the Fall 2015 term, a grade of withdrawal (WD) may be assigned only six times during a student's undergraduate career. If the student drops additional classes, a grade of WFL will be assigned. Withdrawal grades assigned to continuously enrolled students prior to this term will not count against the limit. Additionally, those withdrawal grades assigned at a non-Regental institution prior to entry as a transfer student will not be counted against the six course limits. This limit does not include W grades assigned if a student withdraws from all classes in a given term, which will be assigned a WW grade. The campus Chief Academic Affairs Officer may make exceptions to this requirement in those cases where there are unique factors. (Refer to SDBOR Policy 2:10)

#### Grades for Withdrawals from the Regental System (see "Withdrawals" for additional information)

Students who completely withdraw from the Regental system from the first day of a class(es) through census date of the class(es) will have a comment on the transcript stating Withdrawal and the date of the withdrawal. Undergraduate students who withdraw from the System shall receive a grade of "WW" and graduate students shall receive a grade of "W" if that action occurs anytime between the day after the census day for that course and the day that corresponds with the completion of 70 percent of the class days for that course.

A notation of the date of withdrawal will be included on the student's transcript if he/she withdraws from the system. (Refer to SDBOR Policy 5:7.2)

### Last Day to Drop

For standard classes, the last day to receive a grade of "W" is determined by calculating 70 percent of the class meeting days in the term, counting from the first day of classes in the term and rounding up if the calculation produces a fractional value greater than or equal to 0.5.

For any non-standard course, the last day to receive a grade of "W" is based on the number of class meeting days for the course, using the method described above.

Similar proportional dates would be established by the Registrar's Office for summer, interim and other courses taught outside of the normal nine-month academic year.

Students may not drop a course or withdraw from the System after the time period specified above. (Refer to SDBOR Policy 5:7.2)

If extenuating circumstances (i.e., illness) have prevented class participation, a petition for an individual drop may be filed.

## Auditing a Course

Registration as an auditor in a course may be permitted. No credit is given. The audit fee is the established tuition and fee rate. **Registration for audit may be accomplished only after registration day by presenting an Audit/Satisfactory/Unsatisfactory form to the Registrar's Office, Enrollment Services Center.**

Auditing courses by graduate and undergraduate students will be a matter of record (recorded on their academic transcript). An AU grade is given for Audit. This grade does not calculate into the semester or cumulative grade point average. Audit courses are counted as part of the 19 hour rule for overloads. **Audit courses are not counted in calculating undergraduate or graduate full-time student status.**

## Course Application to Multiple Requirements

A course may be used to fulfill one or more degree requirements, but the number of credits is counted once. For example, a student who completes SOC 100 to fulfill General Education and a major requirement earns a total of 3 credits.

## Course Exemption

Students may be awarded an exemption from taking a course but not receive college credit. This may result from the SDSU policy related to a specific test or credit received by examination from another institution.

## Credits

Semester credit hours ("credits") are the numerical values by which course work is measured. The credit hour value for a course is determined primarily by the amount of time, the intensity of the educational experience, and the amount of outside preparation required by the student. For example, a lecture course with readings or other out-of-class preparation would result in one credit for each class hour scheduled per week for a semester while a laboratory experience with little out-of-class preparation may equal one credit for three hours scheduled per week of a semester.

Independent courses vary in credit according to the nature of the work involved.

## Electives

Electives are offered so students may develop special talents or interests. The choice of subjects is left to the student, provided the selections made are consistent with the academic standards of the University. Electives used to meet the general education core degree requirements must be chosen from the approved list.

The dean of the college (or designee) in which the degree is sought must approve registration in an elective if the course is to be counted toward the degree.

## Interstate Passport

South Dakota State University participates in the Interstate Passport Network, a network of regionally-accredited institutions that agree to transfer completed general education requirements as a block in a seamless and efficient process among its members. Students who transfer into South Dakota State University with a Passport from another Network-member institution will not have to repeat or take additional courses to satisfy lower-division general education requirements. Earning a Passport recognizes that a student has achieved learning outcomes in the following nine knowledge and skill areas, which all Network member institutions agree are consistent with their own general education learning outcomes:

**Foundational Skills:** oral communication, written communication, quantitative literacy
**Knowledge of Concepts:** natural sciences, human cultures, creative expression, human society and the individual
**Cross-cutting Skills:** critical thinking and teamwork/value systems.

If you are interested in learning more, contact South Dakota State University's advising/admissions team.

## Non-Credit Courses

In addition to courses leading to degrees, the University offers professional development and personal enrichment activities throughout the year. Continuing and Distance Education approves a number of Continuing Education Units (CEUs), can develop customized professional development opportunities and workshops, and partners with Osher Lifelong Learning Institute (OLLI). For more information please visit https://www.sdstate.edu/PACE, e-mail the Professional and Special Programs Coordinator - Continuing and Distance Education, or call 605-688-4154.

## Repeated Courses

(SDBOR Policy 2:8, section 3.4)

All courses taken appear on the student's academic record, but when a course is repeated, only the most recent grade is calculated into the cumulative GPA. This policy applies to both undergraduate and graduate coursework. Relative to number of repeats allowed:

1. A student may enroll in an undergraduate course (for which credit is granted only once) no more than three times without permission of the Vice President for Academic Affairs.
2. A student may enroll in a graduate course (for which credit is granted only once) no more than two times without permission of the Graduate School.
3. A student will be allowed unlimited enrollments in an undergraduate or graduate course for which credit toward graduation may be received more than once. An institution may limit the number of credit hours for courses that may be taken more than once that apply toward the requirements for a major.

**Please notify the Registrar's Office, Enrollment Services Center, when a course, whether failed or passed, is repeated.**

## Transferring Credits

(SDBOR Policy 2:5)

Academic courses transfer as meeting graduation requirements if the courses parallel the scope, depth and academic rigor to satisfy requirements for the degree or if the courses meet electives for the degree.

SDSU has partnered with technical institutes, community colleges, and other universities to ensure a smooth transition to transfer credit. Access the Transfer Agreements webpage to view transfer and articulated program-to-program agreements.

Students can review transferable courses by using the SDSU Transfer Credit Evaluator.

A formal transfer credit evaluation will be completed upon receipt of final official transcripts.

For more information, contact the SDSU Transfer Services Coordinator, Registrar's Office in the Enrollment Services Center.

### Undergraduate Students Taking Graduate Courses

(SDSU Policy 2:22, SDBOR Policy 2:8, section 3.3.1, SDBOR Policy 2:10)

Undergraduate students who have completed a minimum of 90 credit hours may request to enroll in 500/600 level. Students will pay graduate tuition and the courses will be recorded on a graduate transcript. A maximum of 12 graduate credits may apply to an undergraduate degree. SDSU Policy 2:22 Use of Graduate Credit for Undergraduate Degree Requirements designates standards concerning the use of graduate credit to fulfill undergraduate degree requirements as allowed by SDBOR Policy 2:8.

## Credit for Prior Learning

Students who have studied a subject independently or have completed college level coursework for which they are unable to get a transcript acceptable to this institution may receive credit through a variety of evaluation processes. For information about credit through any of these processes contact the Testing Center.

Credits obtained through validation methods other than nationally recognized examinations are limited to 30 hours of credit for baccalaureate degrees and 15 hours of credit for associate degrees. There is no limit on the number of credits earned through nationally recognized examinations.

South Dakota State University cannot guarantee that credit earned via validation at SDSU will transfer to other institutions. Even though SDSU has made an effort to set cut off scores at appropriate levels, each institution develops its own procedures for accepting credit by validation. In some cases, a certain test or score level acceptable at SDSU may not qualify a student for credit at another institution.

### Credit by Exam

If credit by examination is accepted, the permanent record will show the course name and a grade of EX for the specified number of credits. If credit is accepted by another form of validation, the grade will be CR for the specified number of credits. No entry will be made on the record if the examination is failed. The examination results will not be included in calculation of either the semester or the cumulative grade point averages.

Students and former students who were previously in good standing may acquire credit by examination provided they meet the conditions outlined below.

#### Advanced Placement Program (AP)

The Advanced Placement (AP) Examination is given at the high school level. Usually a student completes an AP course in high school then takes the AP test at the end of the course. Students receiving an AP examination score that meets the SDBOR score guidelines, receive credit for equivalent college courses on their SDSU transcript.

All South Dakota state institutions are required to accept the same examinations and scores set by the South Dakota Board of Regents. The South Dakota public university system will only accept Advanced Placement scores recorded by an institution within five years from the time the student took the exam.

A student's AP score reports are sent to SDSU when the student places SDSU's school code (6653) on their test registration application. For all first-time students 2018 and after, AP credits will automatically be applied to their transcript by the end of their first semester if the student's score report was sent to SDSU. If the student's score report was not sent to SDSU at the time of testing, the student will need to order a report from College Board and have it sent to SDSU for recording. SDSU only accepts official score reports for awarding prior learning credit. For students entering prior to Fall 2018, to have the credits placed on a transcript, the student must complete an Application for Placement Credit form from the Testing Center office. To request an application form email the Testing Center at sdsu.testing@sdstate.edu. There is no transcripting fee for this service. If the student successfully completes the examination, the permanent record will show "Credit by Examination" with a grade of "EX". No entry will be made on a permanent record if the examination is failed.

#### College Level Examination Program (CLEP)

The College Board's College Level Examination Program (CLEP) provides an opportunity to earn college credit for college level achievements without the benefit of transcripted college credit or to validate coursework or experience otherwise not acceptable as transfer. College credit is awarded for satisfactory performance on the CLEP subject examinations per the South Dakota Board of Regents policy. SDSU will only receive a copy of a student's CLEP scores if South Dakota State University (#6653) is chosen as a score recipient. South Dakota Board of Regents policy on specific courses for which credit is given and other requirements are found at CLEP guidelines. If the student successfully completes the examination, the student must pay a per credit recording charge and complete an Application for Placement Credit form that can be found on the Testing Center's website in order to have the credits placed on their academic transcript (https://www.sdstate.edu/testing-center/clep). The permanent record will show "Credit by Examination" with a grade of "EX". No entry will be made on a permanent record if the examination is failed.

CLEP tests may be retaken only following a lapse of three months. CLEP exams may be taken to repeat an F grade, but F will still count in gpa. For information about taking a CLEP exam or having CLEP credits placed upon your transcript, visit https://www.sdstate.edu/testing-center/clep.

#### Defense Activity for Non-Traditional Education Support (DANTES)

The Defense Activity for Non-Traditional Education Support (DANTES) program that assists Service members and Veterans pursue their educational goals. This program pays College Board for CLEP exams that are administered at the SDSU Testing Center. A military ID is required when using this benefit. The DSST is an extensive series of examinations in college subject areas that are comparable to the final or end-of-course examinations in undergraduate courses. DANTES funds DSST testing for eligible Service members; furthermore, civilian examinees may also take these exams at their own cost at Prometric Test Centers. South Dakota Board of Regents policy on specific courses for which credit is given and other requirements are found at DANTES testing guidelines. If the student successfully completes the examination, the student must pay a per credit recording charge and complete an Application for Placement Credit form found on the Testing Center website in order to have the credits placed on their academic transcript (https://www.sdstate.edu/testing-center/dantes). The permanent record will show "Credit by Examination" with a grade of "EX". No entry will be made on a permanent record if the examination is failed.

#### Institutional Challenge by Examination

If a nationally recognized examination is not available to award credit for a course, a special examination may be established. This process is initiated by obtaining a "Challenge By Examination" DocuSign form from the Testing Center and completing the prescribed steps:

1. Consult the head of the department in which the course is offered. This person will conduct a preliminary evaluation of the student's background in the subject area to determine if an examination is warranted.
2. Consult your advisor. If in support, obtain their signature.
3. Consult the dean of the college in which a degree is expected to determine whether credits earned by examination in the proposed subject will be accepted. If this this acceptable, obtain their signature via DocuSign.
4. Pay the examination fee through Register Blast before taking the examination. Specific details are available on the Testing Center website or you can call 605-688-6460.

##### Policy for Repeating Local Challenge Examinations

If a student does not pass the local challenge examination, he or she may use the SDSU petition procedure to request one more opportunity to take a challenge examination for the same course. The guidelines for the retesting process are as follows:

1. Only one retest is allowed.
2. There will be a waiting period of one academic term before retesting may be done.
3. The department will administer a test that is completely different from the examination used in the original challenge attempt.
4. The petition must be approved by the department head, dean, and Testing Center.
5. If the petition is approved, the student must complete a new "Challenge by Examination" form and pay the examination fee before retesting may be done.

## Credit by Portfolio

A "portfolio" may be used to document competencies learned through non-transferable courses at Technical Institutes or other institutions if a grade of C or better was earned. A portfolio may also be used to verify skills learned through prior work experiences. A portfolio is a detailed, written document prepared by a student to demonstrate knowledge and skills. A portfolio may contain both prior coursework and employment experiences relevant to the course being challenged. Review the guidelines and obtain "A Challenge by Portfolio" application through the Testing Center. A description of the process can be found at https://www.sdstate.edu/testing-center/institutional-challenge-portfolio. Students will need to receive departmental approval and pay a fee prior to portfolio review. If credit is to be awarded, the designation on the academic record shall be EX to signify credit by examination of portfolio.

## Modern Language Credit

There are several options for students to earn credit for prior language study. They are as follows:

### WebCape Placement Exam

Students with prior knowledge of a modern language must take courses commensurate with their abilities. If you have studied French, German, Lakota, or Spanish in high school or at another college/university and wish to continue your language studies at SDSU, you can save yourself time and money by starting with a higher-level course. To determine your placement, the School of American and Global Studies administers the WebCape placement exam in French, German, and Spanish. For Lakota, there is an individualized exam offered by the program. Both exams are free to SDSU students.

Once you have received your placement score, you can register for the appropriate course, pass it with a grade of "C" or better, and purchase credit for the prior courses (maximum total of 14 credits). For example, a student who tests into GER 310 would be able to purchase GER 101 (4 cr.), 102 (4 cr.), 201 (3 cr.) and 202 (3 cr.) for a $90.75 per course recording fee. That is a total of 14 language credits (4 courses) in exchange for taking GER 310.

Please note, the intermediate conversation courses in Spanish (SPAN 211, 212, and 250) cannot be used to obtain credit for previous study. You must take a lower-level grammar course (102, 201, 202) or an appropriate 300- or 400-level content course in order to purchase 101-202 credits.

All language students must pass the course with a grade of "C" or higher in order to receive credit for general education courses up to 202. A maximum of 14 credits may be earned in this fashion. Students must apply for this credit on the Testing Center's website https://www.sdstate.edu/testing-center. A recording fee is charged for each lower level course.

### Advanced Placement Program (AP)

The Advanced Placement (AP) Examination is given at the high school level. Usually a student completes an AP course in high school, and then takes the AP test at the end of the course. Students receiving an AP examination score that meets the Board of Regents guidelines in French, German, Latin, or Spanish may apply for credit to be transcripted.

All South Dakota state institutions are required to accept the same examinations and scores set by the South Dakota Board of Regents. The South Dakota public university system will only accept Advanced Placement scores recorded by an institution with five years from the time the student took the exam. As per SDBOR policy, the maximum credit hours allowable for FREN, GER, and SPAN 202 equivalency are 4 credits for French, 3 credits for German, and 3 credits for Spanish. For the Latin – Virgel Advanced Placement equivalencies, please call the Testing Center.

A student's AP score reports are sent to SDSU when the student places SDSU's school code (6653) on their test registration application. For all first-time students 2018 and after, AP credits will automatically be applied to their transcript by the end of their first semester. For students entering prior to Fall 2018, to have the credits placed on a transcript, the student must complete an Application for Placement Credit form in the Testing Center office. There is no transcripting fee for this service. If the student successfully completes the examination, the permanent record will show "Credit by Examination" with a grade of "EX". No entry will be made on a permanent record if the examination is failed.

Alternatively, if students have prior knowledge and would like to receive the full credit hours for FREN, GER, or SPAN 101, 102, 201, and/or 202, they can take a course appropriate to their level, pass it with a grade of "C" or better, and purchase credit for the prior courses (maximum total of 14 credits). In order to have the credits placed on their academic transcript, the student must pay a per course recording fee of $90.75 and complete an Application for Placement Credit form at the Testing Center. Reference the WebCape Placement Exam for additional information on this process.

### College Level Examination Program (CLEP)

CLEP exams are national tests that can be taken at any national testing center. SDSU has been designated as a national testing center for CLEP. SDSU will only receive a copy of a student's CLEP scores if South Dakota State University #6653 is chosen as a score recipient.

Currently, SDSU offers the CLEP exam in French, German, and Spanish. Any student who speaks or has studied these languages is eligible to CLEP. As per SD BOR policy, the maximum credit hours allowable for FREN, GER, and SPAN 202 equivalency are 9 credits for in each language. Scores are shown on the computer screen after the completion of the exam. If a passing score is achieved, the student must pay a per credit recording charge and complete an Application for Placement Credit form on the Testing Center's website in order to have the credits placed on their academic transcript.

Alternatively, if students have prior knowledge and would like to receive the full credit hours for FREN, GER, or SPAN 101, 102, 201, and/or 202, they can take a course appropriate to their level, pass it with a grade of "C" or better, and purchase credit for the prior courses (maximum total of 14 credits). In order to have the credits placed on their academic transcript, the student must pay a per course recording fee of $90.75 and complete an Application for Placement Credit form at the Testing Center. Reference the WebCape Placement Exam for additional information on this process.

### Language Testing International Exams (LTI)

LTI testing is available in a larger number of languages than CLEP offers. Students who speak or have studied a modern language other than French, German, or Spanish may take the LTI written and oral examinations, and then petition to have that study satisfy both the modern language requirement for the B.A. degree and the SGR #4 (Arts & Humanities/Diversity).

The School of American and Global Studies administers Language Testing International (LTI) written and oral examinations to current SDSU students. LTI is exclusively licensed by the American Council on the Teaching of Foreign Language (ACTFL). Credit may be earned through LTI testing for 101, 102, 201, and 202.

The exams, which test your skills on the coursework for which you would like to gain credit, are computer-based and telephone-based where applicable. The following exams are offered:

1. Oral Proficiency Interview by Computer (OPIc)
   The OPIc is a 20-40 minute interview-like, computer based assessment. The exam is designed to elicit a sample of speech via recorded, computer-adapted voice prompts customized to the individual test taker.

2. Internet Writing Proficiency Test (iWPT®)
   The iWPT is an 80 minute standardized exam for the global assessment of functional writing ability in a language. The exam measures how well a person spontaneously writes in a language (without access to dictionaries or grammar references). The exam consists of four requests for written responses that deal with practical, social, and professional topics encountered in informal and formal contexts.

Languages Available: Arabic, Chinese-Cantonese, Chinese-Mandarin, Greek, Hindi, Italian, Japanese, Korean, Polish, Portuguese, Russian, Turkish, and Vietnamese.

If a passing score is achieved, the student pays a $90.75 per course recording fee and completes an Application for Placement Credit form on the Testing Center's website in order to have the credits placed on their academic transcript.

### Study Abroad Transfer Credits

Students who plan to study abroad with the intent of transferring the credits earned to SDSU must receive written permission to do so from the School of American and Global Studies before undertaking such study. Approved language courses transferred from foreign institutions will be accepted as credits without a grade, unless it is otherwise agreed with the student prior to departure. The University does not accept credit from all foreign institutes. Students who take courses abroad without prior permission from the School of American and Global Studies may not receive SDSU credit for these courses.

Please contact the School of American & Global Studies (Wagner Hall 121, 605-688-5101) for additional information regarding placement and credit for prior learning.

## Cross-Curricular Skills

(SDSU Policy 2:11)

The purpose of the cross-curricular skills is to enable each institution to integrate and extend general education learning into its programs of study in a manner consistent with and supportive of each institution's mission, vision and values and any requirements of ongoing institutional or program-specific accreditation or approval. Each institution will manage the design, integration, assessment, evaluation and ongoing continuous improvement of cross-curricular skills within its degree programs. Each university undergraduate program will select no less than five of the following cross-curricular skill requirements as programmatic student learning outcomes.

- Inquiry and Analysis
- Critical and Creative Thinking
- Information Literacy
- Teamwork
- Problem Solving
- Civic Knowledge and Engagement
- Intercultural Knowledge
- Ethical Reasoning
- Foundational Lifelong Learning Skills
- Integrative Learning
- Diversity, Inclusion and Equity

## Degree Planning

### Certificates

A certificate can be earned independently or in conjunction with a degree. Certificates awarded in conjunction with a degree must be completed under the same catalog as the degree requirements. Non-degree seeking students can apply for admission under a certificate program. Degree seeking students can declare a certificate by contacting the college offering the certificate.

### Changing a Major

Students who wish to change their major should consider meeting with an academic advisor prior to initiating the change to ensure the proposed major meets the students' academic and professional goals. Major changes can be initiated at the college Dean's Office.

### Declaring a Minor

Undergraduate minor requirements typically consist of 18 semester credit hours with a minimum of 50% of the credit hours completed at the institution granting the minor. Degree seeking students may complete requirements for a minor at any Regental university that has been approved to grant that minor. The Regental university offering the minor approves completion of minor requirements. The requirements for the minor must be completed under the same catalog as the degree requirements. Students declare their SDSU minor on MyState. Students declaring a minor at another Regental university should contact the Registrar's Office at the university offering the minor.

### Registration

Students are assigned a registration priority date and time. Students can register any time after their priority date and time but not before.

Students should attend an advising session prior to registering for classes. A registration restriction is placed on undergraduate students which the advisor will remove after the advising session.

Students register for classes on Registration Self Service. SDSU offers multi-term registration where students can register for classes a full year in advance. Students who register and subsequently decide not to attend should notify the Registrar's Office so the classes will be dropped and the student will not be billed for the courses.

Financial obligations, minimum academic requirements, immunization requirements or other conditions may result in a restriction that prohibits a student from registering for classes. Students should refer to MyState or Registration Self Service to determine if they have a restriction which will prohibit registration. To determine if a course requires instructor permission or if other minimum requirements must be met, consult Self Service Browse Classes.

## Family Education Rights & Privacy Act of 1974

(SDBOR Policy 3:2)

### FERPA Rights

The Family Educational Rights and Privacy Act (FERPA) affords eligible students certain rights with respect to their education records. (An "eligible student" under FERPA is a student who is 18 years of age or older or who attends a postsecondary institution at any age.) These rights include:

1. The right to inspect and review the student's education records within 45 days after the day the University receives a request for access. A student should submit to the registrar, dean, head of the academic department, or other appropriate official, a written request that identifies the record(s) the student wishes to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of the student's education records that the student believes is inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA. A student who wishes to ask the University to amend a record should write the University official responsible for the record, clearly identify the part of the record the student wants changed, and specify why it should be changed. If the University decides not to amend the record as requested, the University will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
3. The right to provide written consent before the University discloses personally identifiable information (PII) from the student's education records, except to the extent that FERPA authorizes disclosure without consent. As one example, the University discloses education records without a student's prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests. A school official is a person employed by the University in an administrative, supervisory, academic, research, or support staff position (including law enforcement unit personnel and health staff); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official also may include a volunteer or contractor outside of the University who performs an institutional service of function for which the school would otherwise use its own employees and who is under the direct control of the school with respect to the use and maintenance of PII from education records, such as an attorney, auditor, or collection agent. A school official typically has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibilities for the University.
4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the University to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:

   Family Policy Compliance Office
   U.S. Department of Education
   400 Maryland Avenue, SW
   Washington, DC 20202

### Directory Information

The Federal Privacy Act (FERPA) defines some information as Directory Information. SDSU allows the release of the following Directory Information concerning a student upon request, without the consent of the student.

- student's name
- student class level
- degrees received
- major program of study
- minor program of study
- hometown
- dates of attendance
- student's University e-mail address
- photographic material (not including student ID photo)
- full-time/part-time status
- honors and awards
- athletic participation
- graduation date

## Final Examinations

(SDSU Policy 2:1)

### Policy

a. Among the tasks of instruction is that of evaluation of a student's performance. Each course has its own particular parameters, and the evaluation procedure in any one course is not necessarily the same as that in another course. However, the most commonly used evaluation technique is that of written examinations or papers periodically due during the course, and a final examination at the end of the course. The final examination procedure has become so universal and accepted that a final examination period is set aside at the end of the semester in most colleges and universities. The Carnegie credit hour is calculated by contact hours with 15 contacts hours equating to 1 credit hour. Finals week is considered an integral part of the 17-week academic semester and critical to the credit hour calculation.
b. It is the policy of South Dakota State University to adhere to the following:
   i. The final examination schedule will be published in the fall or spring course schedules. Courses offered for 2 or more credits will have an examination time determined by the final examination schedule published in the schedule book.
   ii. Multiple section final examinations will be scheduled at 7:00 a.m. through a request process from the instructor to the Registrar's office.
   iii. Final exams for evening courses (any course that begins at 5:00 p.m. or later) must be scheduled at the regularly scheduled time (of the course) during finals week.
   iv. Courses of 1 credit or laboratory only will have the final examination or alternative learning experience during the last week of regular classes before final examination week.
   v. Every course except as noted in #2, #3, and #4 above is required to follow the final examination schedule.
   vi. Five days are to be scheduled for final examinations at the end of each semester, fall and spring. Due to the variety of summer sessions and other accelerated course formats, the final day of the term will be reserved for the final examination.
   vii. A block of 2 hours will be available for administering individual final examinations. Within the final examination time period, instructors may reduce the time limit of an examination by prior announcement.
   viii. Final examinations are an integral part of the instructional program and should be given in all courses except in some cases such as laboratory, studio, capstone courses, seminars, colloquia and other independent learning credits, where a final examination may not be appropriate. Any instructor wishing to waive the right to a final examination must do so by submitting a request as outlined under Procedures. The right to waive the final examination does not, however, preclude the requirement to hold class during final examination week for an alternative learning experience. The discipline is responsible for defining appropriate alternative learning experiences.
   ix. Take home final examinations are permissible but the course must still meet during final examination week for alternative learning experience.
   x. Online and hybrid courses must be held to the same standard for final examinations and can only be administered during final examination week.

xi. If a final examination is used, it should not be given early. The published final examination schedule must be followed and the final examination in a course should be given as scheduled and not at other times, even if the faculty member and all students in a course agree to such a change. This is true even if the final examination is an alternative learning experience. It is understood that some culminating learning assessment may be administered during the last week of classes. This does not preclude the requirement however, for these classes to meet during finals week.

xii. The week of classes preceding the scheduled final examination period should be used primarily for continued instruction and may include the introduction of new material. No final examinations are to be given during the seven days preceding the start of the examination period (excluding 1 credit courses). However, laboratory practicums, seminar presentations, etc. may be scheduled in that week.

xiii. Individual students may petition in writing for a variance from these policies, provided the instructor is satisfied that the exception is based on good and sufficient reasons, and that such an exception for an early or late examination will not prejudice the interests of other students in the course. Reasons for individual students missing a scheduled examination will be handled by the department. Each department will decide what will, or will not, be an acceptable excuse and deal with individual hardship cases. Note that the SDSU Attendance Policy should be consulted for excused absences. In the event of a department approved excuse, the instructor will decide the procedure necessary to complete the course requirement. Instructors must have the consent of the department head in excusing the student.

xiv. When students have more than three final examinations on the same day, they are entitled to arrange an alternative examination time for an examination or examinations scheduled on that day. Such arrangements must be made no later than the end of the 12th week of the semester. Students are expected to provide evidence to the Registrar's Office that they have more than three examinations to qualify for exceptions.

c. This policy applies to all undergraduate and graduate students, including seniors. Graduating seniors are not exempted from final examinations.

### Procedure

a. Each instructor, department head and dean is responsible for enforcing the above policies. The SDSU Attendance Policy will be used to establish acceptable excuses for missing and retaking a final examination.

b. Any instructor wishing to request a waiver from administering a final examination must do so by submitting a request to the department head for approval. The department head will then forward such requests to the college dean. A course need only be approved once; however, if substantive modifications are made to a course, it should be resubmitted for approval.

## Grades

(SDBOR Policy 2:10.1)

The grading system is based on achievement of expectations in a class. Undergraduate grades will be assigned to the undergraduate academic level and to all courses and sections with course numbers ranging from 001 to 499. Plus and minus grades are not used. A grade report is available for each registered student on Self Service.

### Grade Point Averages

(SDBOR Policy 2:10.3)

The following grade point averages are calculated each academic term (Fall, Spring, Summer):

- **Institutional GPA** - based on credits earned at a specific Regental university. Utilized to determine if degree requirements have been met and to determine Honors Designation at graduation.
- **System Term GPA** - based on credits earned at any of the six Regental universities within a given academic term (Fall, Spring, Summer). Utilized to determine minimum progression status.
- **Transfer GPA** - based on credits earned and officially transferred from an accredited college or university outside the Regental system. When a letter grade that normally calculates into the grade point average exists for a non-academic course (e.g., credit earned via examination), it will be included in the transfer GPA.
- **Cumulative GPA** - based on all credits earned by the student (transfer credit plus system credit). Utilized to determine minimum progression status and to determine if degree requirements have been met and to determine Honors Designation at graduation. When a course has been repeated for credit, all attempts will be entered on the transcript, but the last grade earned will be used in the calculation of the cumulative grade point average (See also SDBOR Policy 2:5, section B.7).

The cumulative grade point average (CGPA) is obtained by dividing grade points by the number of all hours attempted. **In computing grade point averages all hours attempted (graded A, B, C, D, F) are included.**

Repeating a Course to Raise the Grade. All courses taken appear on the student's academic record, but when a course is repeated, only the most recent grade is calculated into the cumulative GPA.

**Students should notify the Registrar's Office, when a course, whether failed or passed, is repeated.**

### Grading Rubric

The rubric below is designed to help faculty clearly articulate the standards by which they will assess student work. The rubric reflects broad consensus regarding the chief components of such work - its content, form, and style - and regarding the qualities that mark each grade level. No single rubric, however, applies to every assignment. What follows, then, is a guideline to help foster discussion - and understanding - between faculty and students about performance expectations and about assessment. Faculty may use the rubric as is or adapt it as they see fit.

| Letter Grade | Descriptor | Grade Point Value |
|---|---|---|
| A | The grade of "A" ("exceptional") designates:<br>• fulfillment of the requirements and objectives of the assignment<br>• an excellent, impressive command of content<br>• a clear explanation, development, and application of ideas<br>• independent thought and analysis<br>• thorough and persuasive substantiation of claims<br>• clear and effective organization<br>• precise, fluent, and distinctive expression—written or oral<br>• correct grammar, punctuation, documentation, and format | 4.00 grade points per semester hour |
| B | The grade of "B" ("above average") designates:<br>• fulfillment of most of the requirements and objectives of the assignment<br>• a competent command of content<br>• mostly clear explanation, development, and application of ideas<br>• a capacity for independent thought and analysis, though it is not fully realized<br>• sufficient and mostly persuasive substantiation of claims<br>• mostly clear and effective organization<br>• mostly precise, fluent, and clear expression—written or oral | 3.00 grade points per semester hour |

| Letter Grade | Descriptor | Grade Point Value |
|---|---|---|
| | • mostly correct grammar, punctuation, documentation, and format | |
| C | The grade of "C" ("average") designates:<br>• fulfillment of the major requirements and objectives of the assignment, though minor ones are only partially fulfilled or unfulfilled<br>• an adequate command of subject matter<br>• adequate explanation, development, and application of ideas, though lack of depth is evident<br>• lack of independent thought or sustained analysis<br>• inconsistent substantiation of claims<br>• adequate organization, though lapses are evident<br>• adequate expression—written or oral—though lapses in precision, fluency, and clarity are evident<br>• adequate grammar, punctuation, documentation, and format, though errors are evident | 2.00 grade points per semester hour |
| D | The grade of "D" ("lowest passing grade") designates:<br>• insufficient fulfillment of the requirements and objectives of the assignment<br>• an inadequate command of content<br>• insufficient explanation, development, and application of ideas<br>• unexamined, clichéd thinking and little analysis<br>• inadequate substantiation of claims<br>• inadequate organization, making the text hard to follow<br>• inadequate expression—written or oral—with significant lapses in precision, fluency, and clarity<br>• numerous and significant errors in grammar, punctuation, documentation, and format | 1.00 grade points per semester hour |
| F | The grade of "F" ("failure") designates:<br>• a failure to follow or complete the assignment<br>• a failure to control or comprehend the content<br>• a failure to sufficiently explain, develop, or apply ideas<br>• a failure to analyze<br>• a failure to sufficiently substantiate claims<br>• a failure to organize the content, making the text or oral presentation largely incoherent<br>• a failure to write or speak with any degree of precision, fluency or clarity<br>• a failure to abide by the conventions of grammar, punctuation, documentation or format | 0.0 grade points per semester hour |
| S | Satisfactory | Does not calculate into any GPA |
| U | Unsatisfactory | Does not calculate into any GPA |
| RI | Incomplete (Remedial) | Does not calculate into any GPA |
| RS | Satisfactory (Remedial) | Does not calculate into any GPA |
| RU | Unsatisfactory (Remedial) | Does not calculate into any GPA |
| W | Withdrawal | Does not calculate into any GPA, no credit granted |
| WD | Withdrawal (First 6 Courses) | Does not calculate into GPA, no credit granted |
| WW | Withdrawal (All Courses in a term) | Does not calculate into GPA, no credit granted |
| WFL | Withdrawal (7th Course or higher) | 0.0 grade points per semester |
| AU | Audit | Does not calculate into any GPA |
| I | Incomplete | Does not calculate into any GPA |
| IP | In Progress | Does not calculate into any GPA |
| SP | Satisfactory Progress | Does not calculate into any GPA |
| EX | Credit by Exam | Does not calculate into any GPA |
| CR | Credit | Does not calculate into any GPA |
| TR | Note for NSE/MLS | Does not calculate into any GPA |
| LR | Lab grade linked to Recitation Grade | Does not calculate into any GPA |
| NG | No Grade | Does not calculate into any GPA |
| NR | Grade not Reported by Instructor | Does not calculate into any GPA |
| Grade* | Academic Amnesty | Does not calculate into any GPA, no credit given |

AU: An audit (AU) grade may be granted only when the student has elected the AU option on or prior to the census date of the term.

CR: A credit (CR) grade may be granted only for non-course credit that is not related to an examination or to equating transfer grades to the BOR grading system. This grade is not used for any Regental university course.

EX: An examination for credit (EX) grade may be granted only for non-course credit validation obtained through a validation process. This grade is not used for any Regental university course.

I: An incomplete (I) grade may be granted only when all of the following conditions apply:

- A student has encountered extenuating circumstances that do not permit him/her to complete the course.
- The student must be earning a passing grade at the time the Incomplete is necessitated. Anticipated course failure is not a justification for an incomplete.
- The student does not have to repeat the course to meet the requirements.
- The instructor must agree to grant an incomplete grade.
- The instructor and student must agree on a plan to complete the coursework.
- The coursework must be completed within one semester; extensions may be granted by the Chief Academic Affairs Officer.
- If the student completes the course within the specified time, the grades that may be assigned are A, B, C, D, F, S, RS, RU, or U.
- If the student does not complete the course within the specified time, the grade assigned will be F (Failure) or U (Unsatisfactory) or RU (Remedial Unsatisfactory) if the student had requested S/U within the time specified in SDBOR Policy 2:6, section 9.

IP: An in progress (IP) grade may be granted only when all of the following conditions apply:

- The requirements for the course (for every student enrolled in the course) extend beyond the current term.

- The extension beyond the current term must be defined before the class begins.
- The instructor must request permission to award IP grades for a course from their Department Head and Dean, and then approval must be obtained from the Vice President for Academic Affairs.
- A definite date for completion of the course must be established in the course syllabus.

With the exception of an "I" that has not been completed within the specified time, any grade reported to the Registrar may be changed by recommendation of the instructor and college dean with approval of the Vice President for Academic Affairs.

Any graduating senior or graduating graduate student who receives an Incomplete or In Progress grade in the final semester in a course required for graduation, or who has not removed an outstanding incomplete or in progress from a previous semester in a course required for graduation by the date grades are due for the semester, will not be permitted to graduate that semester. He or she will be required to apply for graduation for a subsequent semester. Emergency situations require the filing of a petition by the student to his/her Academic Dean for approval prior to the final grading deadline for the final semester.

**When the student has graduated and the degree has been recorded, the record is considered officially closed, and an instructor can no longer change a grade, including the "I" and "IP" grades.**

NG: A grade of NG will be used only with those course sections that are designated as Tracking/Program Sustaining (Q) and those that are assigned the code for Master's Research Problems/Projects Sustaining, Thesis Sustaining, or Dissertation Sustaining (U).

RI, RS, RU: Remedial grades (RI, RS, RU) may be granted only for courses numbered 001 to 099.

S/U: A Satisfactory/Unsatisfactory (S/U) grade may be granted only when the entire course requires the S/U grade or the student has elected the S/U option on or prior to the census date of the term.

The primary objective of the Satisfactory/Unsatisfactory System is to encourage students to attempt courses in areas they would normally avoid because of lack of background.

A student may enroll in up to 20 credits using the Satisfactory/Unsatisfactory System.

These credits must be outside the student's major and may not serve to satisfy university, college, or departmental specific requirements, unless program exceptions exist.

Colleges may further restrict the Satisfactory/Unsatisfactory credit option.

A "D" letter grade or better is considered to be a passing grade in a Satisfactory/Unsatisfactory elective.

Registration for Satisfactory/Unsatisfactory electives will be accomplished only after registration day by Audit/Satisfactory/ Unsatisfactory Form to the Registrar's Office.

The Satisfactory/Unsatisfactory option should be known only to the academic adviser, instructor, the student and the registrar.

Students may request to change from satisfactory/unsatisfactory elective to graded credit or vice versa only during the add period.

The grade (S or U) will be recorded on a student's permanent record. A grade of S or U will not count in the computation of the semester or the cumulative grade point average. If the course is passed (grade of "D" or better), the credits will be counted towards graduation.

Note: Some courses are taught only on a Satisfactory/ Unsatisfactory basis. Consult the specific department for more information.

WD: Beginning with the Fall 2015 term, a grade of withdrawal (WD) may be assigned only six times during a student's undergraduate career. If the student drops additional classes, a grade of WFL will be assigned. Withdrawal grades assigned to continuously enrolled students prior to this term will not count against the limit. Additionally, those withdrawal grades assigned at a non-Regental institution prior to entry as a transfer student will not be counted against the six course limits. This limit does not include W grades assigned if a student withdraws from all classes in a given term, which will be assigned a WW grade. The campus Chief Academic Officer may make exceptions to this requirement in those cases where there are unique factors.

## Home Institution

Effective since fall 2003, all the universities governed by the South Dakota Board of Regents are in a merged environment in which credit earned by a student at any regental university, as well as all transfer work received and recorded from outside the regental system, is recorded on one "system" transcript. In this environment, students designate as their "home institution" the institution from which they seek their degree, and the home institution governs the policies affecting its students.

## Institutional Assessment

As part of SDSU's commitment to academic excellence and providing quality programs, SDSU values the assessment and evaluation of its educational programs and services. These assessment and evaluation efforts are designed to measure the effectiveness of the general education curriculum, the knowledge and skills acquired in the major program of study, and students' perceptions of their education.

To effectively assess and evaluate programs, the University assesses students at various stages of their educational program. Students are required to participate in assessment activities when requested. Examples of assessment activities include standardized tests, surveys, focus groups, etc. Assessment information is collected upon entrance into SDSU and additional assessments occur throughout students' academic careers, as part of graduation requirements. For further information contact the Director of Institutional Assessment.

## Last Date of Attendance

The University is required to provide attendance information regarding certain student populations, e.g. student athletes, international students on student visas, and students who receive Financial Aid or funding as veterans.

This information is collected from instructors for each course twice each term: during Mid-Term Reporting for advising purposes, and at the end of the term when grades are submitted. End-of-term Last Day of Attendance (LDA) information is only collected if a student receives a grade of "F" or "I" for a particular course.

Instructors define what attendance means for each course. In general, the "last day of attendance" is considered to be:

- the last day the student attended class in courses in which attendance is taken by the instructor,
- the last day on which a student submitted an assignment, quiz, or test, or
- the last day on which a student actively participated in a group or online activity in classes in which attendance is not regularly taken.

## Multiple Majors/Degrees (Conferred on the Same Graduation Date)

### One Degree, Multiple Majors

While pursuing a specific degree program, a student may earn several majors or minors approved under that same degree program.

- System General Education requirements are met once.
- Specific requirements for each major and minor must be met.
- One degree and one diploma are issued. Example: B.A. from the College of Arts, Humanities & Social Sciences - Major: History; Major: Political Science; Minor: Global Studies.

### Multiple Degrees

Students wishing to complete two undergraduate majors that are offered under different program structures must complete both curricula corresponding to the declared major, resulting in the completion of two baccalaureate degrees. For two degrees to be awarded during the same graduation, all requirements for both degrees must be met.

- System General Education requirements are met once.
- Specific requirements of each degree program must be met.
- Two degrees and two diplomas are issued.
- Courses may meet the requirements of both degrees provided the overall university requirements are met and the system requirements are met.

## Multiple Majors/Degrees (Conferred on a Later Graduation Date)

### Additional Major Attached to First Baccalaureate Degree

A student who earned a baccalaureate degree from a Regental university may opt to subsequently complete requirements for a second major attached to the original degree. This work, which represents an extension of the original degree, must meet the following specifications:

- Complete all requirements for additional major of choice, including any prerequisites requirements. The new major must be consistent with prior degree framework.
- Pursue second major at the Regental university which conferred the baccalaureate degree.
- No minimal number of credits for this second major is imposed.
- System General Educational Requirements are not relevant to this scenario.
- If the student initiates coursework within two semesters of graduation, he/she may choose either prior assigned catalog or catalog in effect.
- GPA calculation is cumulative and encompasses all undergraduate credits.
- No degree is conferred; consequently, graduation honors do not apply, and no diploma is given.

### Additional Baccalaureate Degree - First Degree Earned Within Regental System

A student who earned a baccalaureate degree from a Regental university may receive an additional bachelor's degree at a later time in a different major from that earned in the home institution. Such a student continues to be classified as an undergraduate student and must meet these requirements:

- Completion of all System General Education Requirements.
- Completion of all requirements for the additional degree and new major as delineated in the current catalog of graduation. A previous minor may be transitioned to a new major. At least 50% of the coursework comprising the major must be earned at the regental university conferring the new degree.
- Completion of all requirements for a minor if required by second degree; the student may not transition a former major to a new minor. Note: should the student pursue completely new major (as opposed to transitioning old minor to new major), then he/she may recycle old minor (if completion of a minor is required by new degree program).
- Minimum number of new (that is, earned after first baccalaureate degree was conferred) credit hours that must be completed at the regental institution granting the second degree: 30.
- Other: Beyond major/minor, one or more requirement categories (system, institutional, degree) must include new coursework. This critical factor distinguishes second degree from second major.
- New catalog is consistent with readmission and declaration of degree-seeking status.
- GPA calculation is cumulative and encompasses all undergraduate credits.
- Because a degree is conferred, the student is a candidate for graduation honors and given a diploma.

### Additional Baccalaureate Degree - First Degree Earned Outside Regental System

A student holding a baccalaureate degree from a non-regental, regionally accredited college or university may receive an additional baccalaureate degree in a different major from that previously earned. Such a student continues to be classified as an undergraduate student and must meet these requirements:

- Completion of System General Education Requirements.
- Completion of all requirements for the additional degree and new major as delineated in assigned catalog of graduation. A previous minor may be transitioned to a new major. At least 50% of the course work comprising the major must be earned at the regental university conferring the new degree.
- Completion of all requirements for a minor if required by second degree; the student may not transition a former major to a new minor. Note: should the student pursue completely new major (as opposed to transitioning old minor to new major), then he/she may recycle old minor (if completion of a minor is required by new degree program).
- Minimum number of credit hours that must be earned from the institution granting the second degree (following completion of first degree): 30.
- Catalog is consistent with admission to the regental system and declaration of degree-seeking status.
- GPA calculation is cumulative and encompasses all undergraduate credits.
- Because a degree is conferred, the student is a candidate for graduation honors and given a diploma.

## Placement Process for English, Math, & Reading Courses

### Placement into Initial Math & English Courses

(SDBOR Academic Affairs Guidelines 7.6, SDBOR Academic Affairs Guidelines 8.3, SDBOR Academic Affairs Guidelines 8.4)

The Board of Regents has developed a standardized placement process to ensure that entering students are placed into math and English courses most appropriate for their ability and background.

Entering students must show evidence of their level of academic preparation prior to enrollment into their initial mathematics and English courses. All entering students seeking a baccalaureate degree must provide valid ACT/SAT/11th Grade Smarter Balanced scores (within the last five years), or must take the ACCUPLACER

examination in the areas of writing skills, mathematics, and reading. All non-degree seeking students enrolling in English and mathematics courses must provide ACT/11th Grade Smarter Balanced scores or must take the ACCUPLACER examination in the areas of writing skills and mathematics.

In addition to scores on these assessments, other information such as high school GPA and curriculum completed may also be considered as placement decisions are made.

Transfer students who have completed equivalent general education coursework in English and mathematics are exempt from this requirement.

Students transferring will be allowed to transfer their placement test scores and continue their sequence of courses in English and/or mathematics. This can be accomplished by logging into the ACCUPLACER student portal and sharing your ACCUPLACER score report(s) with the Testing Center at South Dakota State University. Full directions can be found at www. ACCUPLACER.org.

Each institution shall give students prior notice that it will provide reasonable accommodations for test takers in keeping with institutional practices implementing the South Dakota Human Relations Act of 1972, the Rehabilitation Act of 1973 and the Americans with Disabilities Act (refer to SDBOR Policy 1:19).

### Placement into Remedial Reading

(SDSU Policy 2:28)

Placement in the remedial reading course helps ensure that students have the necessary reading skills to be successful in college level courses. The remedial reading course provides students with multiple strategies to promote comprehension skills, develop vocabulary and enhance metacognition to become strategic readers.

It is the policy of the University to adhere to the following:

1. All entering students seeking an associate or baccalaureate degree must provide valid ACT scores (within the last five (5) years) or must take the ACCUPLACER examination in the areas of writing skills, mathematics, and reading.
2. Students (first-time and transfer) who score 17 or less on the ACT in reading are required to successfully (RS grade) complete READ 041, Reading for College Success, within their first 30 credit hours.
3. Transfer students with fewer than 30 credits completed and without ACT scores are required to complete the ACCUPLACER examination in the area of reading.
4. Students may challenge their placement by taking the ACCUPLACER examination. Students are allowed two (2) challenges. If the student's score is 85 or greater on the ACCUPLACER Classic Reading examination or 261 or greater on the ACCUPLACER Next Generation Reading examination, the student will not be required to complete READ 041.
5. For all students with valid SAT scores, the SAT Evidence-Based Reading and Writing (formerly "Writing plus Critical Reading") will be equated to ACT reading scores.
6. Students with a valid Smarter Balance English Language Arts/Literacy score which meets the SDBOR threshold for English placement or greater are exempt from taking READ 041. Smarter Balance scores may also be used if on the high school transcript.
7. The requirement to complete READ 041 will be waived if a student transfers in a comparable three (3)-credit reading course with a grade of RS or C (or equivalent) or better.
8. Transfer students with 30 or more credits completed and a cumulative GPA of 3.0 or above at the time of transfer are exempt from completing the remedial reading course (regardless of ACT/SAT scores).
9. The University shall provide accommodation regarding the provision of ACCUPLACER examinations pursuant to Title II of the Americans with Disabilities Act and Section 504 of the Rehabilitation Act.

For students who participate in New Student Orientation (NSO), their placement status is reported on the Profile Sheet. For other students, the academic advisor notifies students of their reading placement status based on the students' profile stored in WebNow.

To challenge the reading placement, students contact the SDSU Testing Center and are required to pay the challenge fee and complete the ACCUPLACER Reading Test Package. The score is entered into the Student Information System. Schedule an ACCUPLACER test using the registration site Register Blast.

The SDSU Testing Center can set up a remote ACCUPLACER test for students who are unable to complete the test on campus. In this situation, the SDSU Testing Center will issue the student a voucher that can be used to test using SDBOR approved ACCUPLACER branching packages. There may be an additional cost to test at a testing site not affiliated with the SDBOR. If a student is unable to test at any of the listed ACCUPLACER test sites, they may test remotely with a virtual proctor. There is an additional cost for this service and a computer with internet access and a webcam is required.

Transfer students who meet either exemption, must complete the Reading Placement Exemption Form and submit it to the SDSU Testing Center. Thereafter, the reading registration hold will be removed and the student will be notified.

### Completion of Pre-General Education Courses in English & Mathematics

(SDBOR Academic Affairs Guidelines 7.6, SDBOR Academic Affairs Guidelines 8.1, SDBOR Academic Affairs Guidelines 8.4)

Effective Fall 2003, students are required to complete pre-general education courses in a timely manner. Pre-general education courses include ENGL 032, MATH 021, MATH 093, and MATH 101.

1. Completion of Pre-General Education Courses
   - Pre-general education courses include ENGL 032, MATH 021, and MATH 101.
   - Students placed in pre-general education courses must enroll in and complete the courses within the first 30 credit hours attempted, and follow recommendation as outlined in the General Education Implementation Guidelines.
   - Students who are placed into MATH 021 are expected to successfully complete both MATH 021 and MATH 101 before enrolling in MATH 114. However, a student who performs exceptionally well in MATH 021 may petition the Vice President for Academic Affairs to bypass MATH 101 and enroll in MATH 114 as their next mathematics course. These students must sit for the ACCUPLACER Math placement exam and earn scores that meet or exceed the placement score necessary for enrolling in MATH 114.
2. Credit Hours and Grades
   - Credit hours for the pre-general education courses are included in the total number of credit hours attempted.
   - The grades assigned for courses numbered less than 100 will be RI, RS and RU.

## Students Called to Active Military Service

(SDBOR Policy 2:4:1, section 6, SDBOR Policy 2:30, SDBOR Policy 5:7)

Students who belong to a military unit called for duty or who are drafted and not eligible for deferment and who are required to withdraw from state supported institutions before completing an academic program to which they have been duly admitted will be eligible to resume work on the program after their release from active duty. SDBOR Policy 5:7 sets forth Board policies concerning special tuition refunds and related policies that take effect when students are required to report for active duty part-way through an academic term.

## Student Code of Conduct

(SDSU Policy 3:1)

South Dakota State University has established standards for expected and acceptable behavior for members of its campus community. Students are expected to be familiar with these standards and related policies so that they know their responsibilities (what they may be held accountable for) and to protect their rights (what they may hold others accountable for).

Academic institutions exist for the transmission of knowledge, the pursuit of truth, the development of students, and the general support for the well-being of society. Free inquiry and expression are indispensable to the attainment of these goals. Freedom to teach and freedom to learn are inseparable facets of academic freedom. The freedom to learn depends upon appropriate opportunities and conditions in the classroom, on campus and in the community. Students are expected to exercise this freedom with responsibility.

The Student Conduct Code is the basic guideline reflecting university-student relations. The Code defines student behavior, expectations and related university conduct procedures. Refer to SDSU Policy 3:1 for the Student Conduct Code policies and procedures.

## Student Complaints - Institutional Record

To comply with federal regulations, the Higher Learning Commission expects SDSU and affiliated institutions to make available an account of the student complaints it has received, its processing of those complaints, and how that processing comports with the institution's policies and procedures on the handling of grievances or complaints. (HLC Policy Number: FDCR.A.10.030) Records will be kept with Academic Affairs, Student Affairs, Human Resources and departments responsible for student support and accountability.

The complaint process is subject to the South Dakota Board of Regents policies, and will follow the institutional policies listed below:

- Policy 2:4 Student Academic Misconduct and Academic Appeals
- Policy 3:1 Student Code of Conduct
- Policy 4:3 Equal Opportunity, Non-Discrimination, and Affirmative Action
- Policy 4:4 Harassment including Sexual Harassment
- Policy 4:5 Prevention of Dating Violence, Domestic Violence, Sexual Assault, and Stalking
- Policy 4:6 Human Rights Complaints

## Student Email

(SDSU Policy 3:8)

Email messages sent by SDSU to students through university-assigned, jacks email addresses will constitute an official means of communication. It is the student's responsibility and obligation to access official university email messages in a timely manner. Students will be responsible for maintaining and managing their University e-mail accounts to ensure timely response to notifications and that storage space allotment is not exceeded. As other email accounts may be blocked by the SDSU firewall, SDSU is only able to monitor student emails coming from university-assigned email accounts.

Inappropriate use of the University student e-mail system will be considered a violation of policy, and students who so violate will be disciplined in accordance with the Student Conduct Code. Student violators may also be subject to revocation or limitation of e-mail privileges as well as referral to appropriate external authorities.

## Student Recording of Classroom Lectures, Distribution of Course Materials, & Copyright Violations

(SDSU Policy 2:16, SDSU Policy 7:3, SDSU Policy 9:4)

Recording of Classroom Lectures and Distribution of Course Materials policy prohibits or restricts the recording of classroom lectures or redistribution of classroom materials in order to respect the integrity and effectiveness of the classroom experience, protect students' and faculty members' privacy, respect faculty and University rights in instructional materials, and to comply with copyright laws, including the Digital Millennium Copyright Act of 1998 ("DMCA"). Students are encouraged to report instances of copyright infringement in good faith to the Office of Student Conduct (for students) and SDSU Human Resources (for SDSU employees).

## Student Travel & Field Trips

### Student Organization Travel & Field Trips

(SDSU Policy 2:12)

SDSU strives to promote safe travel by University students and members of the University's recognized student organizations for certain student activities or trips, as well as set forth the University protocols for the certain activities or trips. Refer to SDSU Policy 2:12 for the Student Organization Travel and Field Trips policy and procedure.

### University-Sponsored Student Athletic Trip Regulations

1. A written notification of all athletes participating in any off-campus event must be submitted to the Compliance Office **prior** to leaving for the off-campus athletic event. This notification must include the names of all students, mode of transportation, date and time of departure and return, and number of class days that will be missed due to the event.
2. Athletes on university-approved athletic trips should have their own primary insurance coverage. The University provides secondary coverage for costs over primary limits or for athletes who do not have primary insurance. State-owned vehicles may be utilized if criteria established in the policy regulating use of state-owned vehicles are met. Drivers of personal vehicles must have liability insurance.
3. Students are eligible for trips if 1) activities of the student have not been curtailed by actions of an authorized University judicial body; 2) no single trip shall keep students away from classes more than five (5) consecutive class days.
4. If there are any changes in personnel going on a trip or changes in trip dates, these **changes must be registered with the Compliance Office before the trip.**

## Students with Disabilities

(SDSU Policy 4:13)

South Dakota State University (SDSU) reaffirms that it is committed to a policy of non-discrimination on the basis of physical or mental disability/impairment in the offering of all benefits, services, educational, and employment opportunities. The ADA Coordinator is designated the SDSU 'Responsible Employee' to coordinate institutional compliance. In that capacity, the ADA Coordinator is committed to ensuring that SDSU provides an inclusive learning environment.

The ADA Coordinator will also be responsible for the effective integration of ADA procedures, and Section 504 of the Rehabilitation Act of 1973. The Coordinator serves as the personal contact for students seeking information concerning the provisions of the ADA and their respective duties and rights provided therein. For information, please e-mail the Office of Disability Services or call 605-688-4504.

## Study Abroad & Travel Warnings

(SDSU Policy 2:11)

SDSU Policy 2:11 (Study Abroad and Travel Warnings) addresses the procedures to be followed when the U.S. Department of State or federal government or state agency with authority over aspects of travel issue travel warnings for a country or location in which SDSU undergraduate or graduate students are studying or are planning to study, or where the federal government otherwise takes actions to curtail or prevent international travel.

## Textbook Policy

(SDSU Policy 2:10)

The SDSU Textbook policy and related procedures set forth the requirements for selecting and ordering textbooks and course materials and for making all materials available to students in a timely manner.  Refer to SDSU Policy 2:10 for the Textbook policy and procedure.

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# General Education Requirements


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The general education curriculum is central to South Dakota State University's mission to help students develop the competencies, principles, and modes of thinking crucial for advanced study in their major and for meeting the obligations of an informed and engaged citizenship. These foundational courses promote scientific inquiry; quantitative reasoning; written and oral communication; an awareness of the historical, psychological, social, economic, and political structures that inform our present moment; and an understanding of the contributions diverse cultures make to our common humanity. South Dakota State University and its faculty express their commitment to helping students acquire the sensitivity, knowledge, and powers of analysis and reasoning they will need to contribute in meaningful ways to the workplace and the world beyond.

The General Education curriculum for all undergraduate students is further explained in the following sections. General Education curriculum consists of System General Education Requirements. SDBOR Policy 2:7, SDBOR Policy 2:26, SDBOR Academic Affairs Guidelines 8.3, and SDBOR Academic Affairs Guidelines 8.4 identify (a) the purpose of the requirement, (b) the skills to be developed in each course that satisfies the requirement, and (c) the approved courses. Students may only select general education courses from the approved list. These requirements are effective for students entering Fall 2017.

## General Education Requirements for Associate Degree

(SDBOR Policy 2:26, SDBOR Academic Affairs Guidelines 8.3)

The general education component of all associate degree programs shall consist of the System General Education Requirements. Students may only select general education courses from a limited approved list to meet the System General Education Requirements. These requirements are effective for students entering Fall 2017.

The System General Education Requirements for students pursuing an Associate of Arts or Associate of Science degree shall include 24 credit hours as specified in SDBOR Policy 2:26.

### Associate of Arts Degree and Associate of Science Degree

*System General Education Requirements: 24 credits*

| | *SDBOR Requirement: 18 Credits* | *SDSU Requirement: 6 Credits* |
|---|---|---|
| SGR Goal #1 | 3 Credits | 3 Credits |
| SGR Goal #2 | 3 Credits | |
| SGR Goal #3 | 3 Credits | 3 Credits * |
| SGR Goal #4 | 3 Credits | 3 Credits * |
| SGR Goal #5 | 3 Credits | |
| SGR Goal #6 | 3 Credits | 3 Credits * |

*Three (3) additional credits selected from approved list of courses from different disciplinary prefixes for Goals #3, #4, or #6.

## General Education Requirements for Baccalaureate Degree

(SDBOR Policy 2:7, SDBOR Academic Affairs Guidelines 8.4)

The General Education component of all baccalaureate programs shall consist of the System General Education Requirements. Students may only select general education courses from a limited approved list to meet the System General Education Requirements. These requirements are effective for students entering Fall 2017.

System General Education Requirements for students pursuing a baccalaureate degree shall include 30 credit hours as specified in SDBOR Policy 2:7.

*System General Education Requirements: 30 credits*

| | *SDBOR Requirement: 18 Credits* | *SDSU Requirement: 12 Credits* |
|---|---|---|
| SGR Goal #1 | 3 Credits | 3 Credits |
| SGR Goal #2 | 3 Credits | |
| SGR Goal #3 | 3 Credits | 3 Credits |
| SGR Goal #4 | 3 Credits | 3 Credits |
| SGR Goal #5 | 3 Credits | |
| SGR Goal #6 | 3 Credits | 3 Credits |

## System General Education Requirements (SGRs)

These requirements are common across the entire South Dakota Regental System. The System General Education Requirements (SGRs) are designed to achieve these six goals.

### SGR Goal #1

#### Written Communication

Students will write effectively and responsibly and will understand and interpret the written expression of others.

#### Student Learning Outcomes

As a result of taking courses meeting this goal, students will:

a. Write using standard American English, including correct punctuation, grammar, and sentence structure,
b. Write logically,
c. Write persuasively, with a variety of rhetorical strategies (e.g., expository, argumentative, descriptive), and
d. Incorporate formal research and documentation into their writing, including research obtained through modern, technology-based research tools.

Each course meeting this goal includes the following student learning outcomes:

Required: a, b, c, and d

#### Required Credit Hours

| | |
|---|---|
| Associate Degrees | 6 Credit Hours |
| Baccalaureate Degrees | 6 Credit Hours |

#### Notes

Student enrollment in the initial English course is determined by the Academic Affairs English and Mathematics Placement Guidelines (SDBOR Academic Affairs Guidelines 7.6).

### Courses

- ENGL 101 - Composition I (COM) [SGR #1] Credits: 3
- ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3
- ENGL 283 - Introduction to Creative Writing (COM) [SGR #1] Credits: 3
- ENGL 284 - Introduction to Criticism (COM) [SGR #1] Credits: 3

## SGR Goal #2

### Oral Communication

Students will communicate effectively and responsibly through listening and speaking.

### Student Learning Outcomes

As a result of taking courses meeting this goal, students will:

a. Demonstrate the ability to speak thoughtfully, clearly, and effectively in a variety of contexts.
b. Demonstrate active listening skills in a variety of contexts.

Each course meeting this goal includes the following student learning outcomes:

Required: a and b

### Required Credit Hours

| | |
|---|---|
| Associate Degree | 3 Credit Hours |
| Baccalaureate Degree | 3 Credit Hours |

### Courses

- CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
- CMST 222 - Argumentation and Debate (COM) [SGR #2] Credits: 3

## SGR Goal #3

### Social Sciences/Diversity

Students will understand the organization, potential, and diversity of the human community through study of the social sciences.

### Student Learning Outcomes

As a result of taking courses meeting this goal, students will:

a. Identify and explain basic concepts, terminology, theories, and systems of inquiry of the selected social science disciplines.
b. Apply selected social science concepts and theories to contemporary or historical issues from different behavioral, cultural, institutional, temporal, or spatial contexts.
c. Analyze the extent and impact of diversity among individuals, cultures, or societies in contemporary or historical contexts using social science methods and concepts.

Each course meeting this goal includes the following student learning outcomes:

Required: a, b, and c

### Required Credit Hours

| | |
|---|---|
| Associate Degree | 3-6* Credit Hours |
| Baccalaureate Degree | 6 Credit Hours |

### Notes

- * Refer to the program requirements. Three additional credits selected from approved list of courses for Goals #3, #4, or #6 to reach 24 System General Education Requirements for the Associate Degree.
- Coursework must be completed from two disciplines.

### Courses

- ABS 203 - Global Food Systems [SGR #3] Credits: 3
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- ANTH 210 - Cultural Anthropology (COM) [SGR #3] Credits: 3
- CMST 201 - Interpersonal Communication (COM) [SGR #3] Credits: 3
- CJUS 201 - Introduction to Criminal Justice (COM) [SGR #3] Credits: 3
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- GEOG 101 - Introduction to Geography (COM) [SGR #3] Credits: 3
- GEOG 111 - Sustainable Society (COM) [SGR #3] Credits: 3
- GEOG 200 - Introduction to Human Geography (COM) [SGR #3] Credits: 3
- GEOG 210 - World Regional Geography (COM) [SGR #3] Credits: 3
- GEOG 212 - Geography of North America (COM) [SGR #3] Credits: 3
- GEOG 219 - Geography of South Dakota [SGR #3] Credits: 3
- GLST 201 - Introduction to Global Studies [SGR #3] Credits: 3
- HDFS 141 - Individual and the Family [SGR #3] Credits: 3
- HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- HIST 151 - United States History I (COM) [SGR #3] Credits: 3
- HIST 152 - United States History II (COM) [SGR #3] Credits: 3
- INFO 102 - Data Ethics [SGR #3] Credits: 3
- PHIL 102 - Data Ethics [SGR #3] Credits: 3
- POLS 100 - American Government (COM) [SGR #3] Credits: 3
- POLS 102 - American Political Issues (COM) [SGR #3] Credits: 3
- POLS 141 - Governments of the World (COM) [SGR #3] Credits: 3
- POLS 165 - Political Ideologies (COM) [SGR #3] Credits: 3
- POLS 210 - State and Local Government (COM) [SGR #3] Credits: 3
- POLS 253 - Current World Issues [SGR #3] Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- REL 237 - Religion in American Culture [SGR #3] Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- SOC 150 - Social Problems (COM) [SGR #3] Credits: 3
- SOC 240 - The Sociology of Rural America (COM) [SGR #3] Credits: 3
- SOC 250 - Courtship and Marriage (COM) [SGR #3] Credits: 3
- WMST 247 - Introduction to Women, Gender, and Sexuality Studies (COM) [SGR #3] Credits:

## SGR Goal #4

### Arts & Humanities/Diversity

Students will understand the diversity and complexity of the human experience through study of the arts and humanities.

### Student Learning Outcomes

As a result of taking courses meeting this goal, students will:

a. Demonstrate knowledge of the diversity of values, beliefs, practices or ideas embodied in the human experience, and
b. Demonstrate basic understanding of concepts of the selected discipline within the arts and humanities.

In addition, as a result of taking courses meeting this goal, students will be able to do at least one of the following:

c. Demonstrate ability to express creative, aesthetic, formal or stylistic elements of the disciplines.
d. Demonstrate foundational competency in reading, writing, and speaking a non-English language.
e. Identify and explain cultural contributions from the perspective of the selected disciplines within the arts and humanities.

Each course meeting this goal includes the following student learning outcomes:

Required: a and b
At least one of the following: c, d, or e

### Required Credit Hours

| | |
|---|---|
| Associate Degree | 3-6* Credit Hours |
| Baccalaureate Degree | 6 Credit Hours |

### Notes

- * Refer to the program requirements. Three additional credits selected from approved list of courses for Goals #3, #4, or #6 to reach 24 System General Education Requirements for the Associate Degree.
- Coursework must be completed from two disciplines or a sequence of foreign language courses. Students must complete a course from another subject if they are using one from either ART or ARTH.

### Courses

- AIS 101 - Introductory Lakota I (COM) [SGR #4] Credits: 4
- AIS 102 - Introductory Lakota II (COM) [SGR #4] Credits: 4
- AIS 201 - Intermediate Lakota I (COM) [SGR #4] Credits: 3
- AIS 202 - Intermediate Lakota II (COM) [SGR #4] Credits: 3
- AIS 238 - Native American Religions [SGR #4] Credits: 3
- ARAB 101 - Introductory Arabic I (COM) [SGR #4] Credits: 4
- ARAB 102 - Introductory Arabic II (COM) [SGR #4] Credits: 4
- ARCH 241 - Construction History [SGR #4] Credits: 3
- ART 111 - Drawing I (COM) [SGR #4] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4] Credits: 3
- ART 121 - Design I 2D (COM) [SGR #4] Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4] Credits: 3
- ARTH 100 - Art Appreciation (COM) [SGR #4] Credits: 3
- ARTH 120 - Film as Art [SGR #4] Credits: 3
- ARTH 211 - History of World Art I (COM) [SGR #4] Credits: 3
- ARTH 212 - History of World Art II (COM) [SGR #4] Credits: 3
- CHIN 101 - Introductory Chinese I (COM) [SGR #4] Credits: 4
- CHIN 102 - Introductory Chinese II (COM) [SGR #4] Credits: 4
- DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3
- ENGL 125 - Introduction to Peace and Conflict Studies [SGR #4] Credits: 3
- ENGL 210 - Introduction to Literature (COM) [SGR #4] Credits: 3
- ENGL 211 - World Literature I (COM) [SGR #4] Credits: 3
- ENGL 212 - World Literature II (COM) [SGR #4] Credits: 3
- ENGL 221 - British Literature I (COM) [SGR #4] Credits: 3
- ENGL 222 - British Literature II (COM) [SGR #4] Credits: 3
- ENGL 240 - Juvenile Literature [SGR #4] Credits: 3
- ENGL 241 - American Literature I (COM) [SGR #4] Credits: 3
- ENGL 242 - American Literature II (COM) [SGR #4] Credits: 3
- ENGL 248 - Women in Literature (COM) [SGR #4] Credits: 3
- ENGL 249 - Literature of Diverse Cultures [SGR #4] Credits: 3
- ENGL 250 - Science Fiction (COM) [SGR #4] Credits: 3
- ENGL 256 - Literature of the American West (COM) [SGR #4] Credits: 3
- ENGL 268 - Literature (COM) [SGR #4] Credits: 3
- FREN 101 - Introductory French I (COM) [SGR #4] Credits: 4
- FREN 102 - Introductory French II (COM) [SGR #4] Credits: 4
- FREN 201 - Intermediate French I (COM) [SGR #4] Credits: 3
- FREN 202 - Intermediate French II (COM) [SGR #4] Credits: 3
- GER 101 - Introductory German I (COM) [SGR #4] Credits: 4
- GER 102 - Introductory German II (COM) [SGR #4] Credits: 4
- GER 201 - Intermediate German I (COM) [SGR #4] Credits: 3
- GER 202 - Intermediate German II (COM) [SGR #4] Credits: 3
- GLST 125 - Introduction to Peace and Conflict Studies (COM) [SGR #4] Credits: 3
- HIST 111 - World Civilizations I (COM) [SGR #4] Credits: 3
- HIST 112 - World Civilizations II (COM) [SGR #4] Credits: 3
- HIST 121 - Western Civilization I (COM) [SGR #4] Credits: 3
- HIST 122 - Western Civilization II (COM) [SGR #4] Credits: 3
- LAKL 101 - Introductory Lakota I (COM) [SGR #4] Credits: 4
- LAKL 102 - Introductory Lakota II (COM) [SGR #4] Credits: 4
- LAKL 201 - Intermediate Lakota I (COM) [SGR #4] Credits: 3
- LAKL 202 - Intermediate Lakota II (COM) [SGR #4] Credits: 3
- MCOM 151 - Introduction to Mass Communication (COM) [SGR #4] Credits: 3
- MCOM 160 - Introduction to Film [SGR #4] Credits: 3
- MFL 101 - Introduction to Foreign Language and Culture I (COM) [SGR #4] Credits: 4
- MFL 102 - Introduction to Foreign Language and Culture II (COM) [SGR #4] Credits: 4
- MUS 100 - Music Appreciation (COM) [SGR #4] Credits: 3
- MUS 130 - Music Literature and History I [SGR #4] Credits: 2
- MUS 131 - Music Literature and History II [SGR #4] Credits: 3
- MUS 201 - History of Country Music [SGR #4] Credits: 3
- MUS 203 - Blues, Jazz, and Rock [SGR #4] Credits: 3
- PHIL 100 - Introduction to Philosophy (COM) [SGR #4] Credits: 3
- PHIL 200 - Introduction to Logic (COM) [SGR #4] Credits: 3
- PHIL 215 - Introduction to Social-Political Philosophy (COM) [SGR #4] Credits: 3
- PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3
- REL 213 - Introduction to Religion [SGR #4] Credits: 3
- REL 224 - Old Testament [SGR #4] Credits: 3
- REL 225 - New Testament (COM) [SGR #4] Credits: 3
- REL 238 - Native American Religions [SGR #4] Credits: 3
- REL 250 - World Religions (COM) [SGR #4] Credits: 3
- RUSS 101 - Introductory Russian I (COM) [SGR #4] Credits: 4
- RUSS 102 - Introductory Russian II (COM) [SGR #4] Credits: 4
- SPAN 101 - Introductory Spanish I (COM) [SGR #4] Credits: 4
- SPAN 102 - Introductory Spanish II (COM) [SGR #4] Credits: 4

- SPAN 201 - Intermediate Spanish I (COM) [SGR #4] Credits: 3
- SPAN 202 - Intermediate Spanish II (COM) [SGR #4] Credits: 3
- THEA 100 - Introduction to Theatre (COM) [SGR #4] Credits: 3
- THEA 131 - Introduction to Acting (COM) [SGR #4] Credits: 3
- WMST 248 - Women in Literature (COM) [SGR #4] Credits: 3

## SGR Goal #5

### Mathematics

Students will understand and apply fundamental mathematical processes and reasoning.

### Student Learning Outcomes

As a result of taking courses meeting this goal, students will:

a. Use mathematical symbols and mathematical structure to model and solve real world problems.
b. Demonstrate appropriate communication skills related to mathematical terms and concepts.

Each course meeting this goal includes the following student learning outcomes:

Required: a and b

### Required Credit Hours

| | |
|---|---|
| Associate Degree | 3 Credit Hours |
| Baccalaureate Degree | 3 Credit Hours |

### Notes

Student enrollment in the initial Mathematics course is determined by the Academic Affairs English and Mathematics Placement Guidelines (SDBOR Academic Affairs Guidelines 7.6).

### Courses

- MATH 103 - Mathematical Reasoning (COM) [SGR #5] Credits: 3
- MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- MATH 115 - Precalculus (COM) [SGR #5] Credits: 5
- MATH 120 - Trigonometry (COM) [SGR #5] Credits: 3
- MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5
- MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

## SGR Goal #6

### Natural Sciences

Students will understand the fundamental principles of the natural sciences and apply scientific methods of inquiry to investigate the natural world.

### Student Learning Outcomes

As a result of taking courses meeting this goal, students will:

a. Explain the nature of science including how scientific explanation are formulated, tested, and modified or validated.
b. Distinguish between scientific and non-scientific evidence and explanations, and use scientific evidence to construct arguments related to contemporary issues.
c. Apply basic observational, quantitative, or technological methods to gather and analyze data and generate evidence-based conclusions in a laboratory setting.
d. Understand and apply foundational knowledge and discipline-specific concepts to address issues, solve problems, or predict natural phenomena.

Each course meeting this goal includes the following student learning outcomes:

Required: a, b, c and d

### Required Credit Hours

| | |
|---|---|
| Associate Degree | 3-6* Credit Hours |
| Baccalaureate Degree | 6 Credit Hours |

### Notes

- *Refer to the program requirements. Three additional credits selected from approved list of courses for Goals #3, #4, or #6 to reach 24 System General Education Requirements for the Associate Degree.

### Courses

- BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3
- BIOL 103-103L - Biology Survey II and Lab (COM) [SGR #6] Credits: 3
- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3
- CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1
- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 115-115L - Atomic and Molecular Structure and Lab [SGR #6] Credits: 3, 1
- CHEM 127-127L - Structure and Function of Organic Molecules and Lab [SGR #6] Credits: 3, 1
- GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4
- GEOG 132-132L - Physical Geography: Natural Landscapes and Lab (COM) [SGR #6] Credits: 4
- INFO 101 - Introduction to Informatics [SGR #6] Credits: 3
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4
- PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4
- PHYS 185-185L - Solar System Astronomy and Lab (COM) [SGR #6] Credits: 3
- PHYS 187-187L - Stars, Galaxies, and Cosmology and Lab (COM) [SGR #6] Credits: 3
- PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- PS 243 - Principles of Geology [SGR #6] Credits: 3
- PS 244 - Geological Resources of South Dakota Lab [SGR #6] Credits: 1
- RANG 205 - Introduction to Range Management [SGR #6] Credits: 3

# Policies Applicable to System General Education Requirements

## Guidelines for Baccalaureate & Associate Degrees

(SDBOR Policy 2:5, SDBOR Policy 2:7, SDBOR Policy 2:26, SDBOR Academic Affairs Guidelines 8.3, SDBOR Academic Affairs Guidelines 8.4)

1. The System General Education Requirements will be effective for students entering in Fall 2005.
2. Only 100/200 level courses will be included. Exceptions based on student background may be made utilizing the established university academic appeal process.
3. Honors courses equivalent to identified System General Education courses will meet the System requirements.
4. Students who complete the System General Education Requirements at any SD Board of Regents institution and then transfer to another SD Board of Regents institution even if the receiving institution has different credit/course distribution and approved course lists, will have completed the equivalent degree level requirements at the receiving institution. All prerequisites for associate and baccalaureate programs must be completed as determined by the student's degree plan.
5. A student who has not completed all general education requirements at the sending institution will be required to complete additional coursework consistent with the course requirements at the receiving South Dakota Regental institution.

## Placement into Initial Math & English Courses

(SDBOR Academic Affairs Guidelines 7.6, SDBOR Academic Affairs Guidelines 8.3, SDBOR Academic Affairs Guidelines 8.4)

The Board of Regents has developed a standardized placement process to ensure that entering students are placed into math and English courses most appropriate for their ability and background.

Entering students must show evidence of their level of academic preparation prior to enrollment into their initial mathematics and English courses. All entering students seeking a baccalaureate degree must provide valid ACT/SAT/11th Grade Smarter Balanced scores (within the last five years) or must take the ACCUPLACER examination in the areas of writing skills, mathematics, and reading. All non-degree seeking students enrolling in English and mathematics courses must provide ACT/SAT/11th Grade Smarter Balanced scores or must take the ACCUPLACER examination in the areas of writing skills and mathematics. In addition to scores on these assessments, other information such as high school GPA and curriculum completed may also be considered as placement decisions are made.

Transfer students who have completed equivalent general education coursework in English and mathematics are exempt from this requirement.

Students transferring will be allowed to transfer their placement test scores and continue their sequence of courses in English and/or mathematics. This can be accomplished by logging into the ACCUPLACER student portal and sharing your ACCUPLACER score report(s) with the Testing Center at South Dakota State University. Full directions can be found at www. ACCUPLACER.org.

Each institution shall give students prior notice that it will provide reasonable accommodations for test takers in keeping with institutional practices implementing the South Dakota Human Relations Act of 1972, the Rehabilitation Act of 1973 and the Americans with Disabilities Act (refer to Board Policy 1:19).

## Completion of Pre-General Education Courses in English & Mathematics

(SDBOR Academic Affairs Guidelines 7.6)

Effective Fall 2003, students are required to complete pre-general education courses in a timely manner. Pre-general education courses include ENGL 032, MATH 021, MATH 093, and MATH 101.

1. Completion of Pre-General Education Courses
   - Pre-general education courses include ENGL 032, MATH 021, and MATH 101.
   - Students placed in pre-general education courses must enroll in and complete the courses within the first 30 credit hours attempted, and follow recommendation as outlined in the General Education Implementation Guidelines.
   - Students who are placed into MATH 021 are expected to successfully complete both MATH 021 and MATH 101 before enrolling in MATH 114. However, a student who performs exceptionally well in MATH 021 may petition the VPAA to bypass MATH 101 and enroll in MATH 114 as their next mathematics course. These students must sit for the ACCUPLACER Math placement exam and earn scores that meet or exceed the placement score necessary for enrolling in MATH 114.
2. Credit Hours and Grades
   - Credit hours for the pre-general education courses are included in the total number of credit hours attempted.
   - The grades assigned for courses numbered less than 100 will be RI, RS and RU.

## Additional Guidelines for Associate Degrees

(SDBOR Policy 2:26, SDBOR Academic Affairs Guidelines 8.3)

Students transferring from a non-regental campus to a Regental campus who have previously earned an Associate of Arts degree will not automatically be judged as having fulfilled the general education requirements of the receiving campus. Such students must fulfill all college, major, minor, certificate, and other degree requirements of the receiving campus.

Students transferring from a South Dakota Technical College to a Regental campus who have previously earned an Associate of Applied Science degree will not automatically be judged as having fulfilled the general education requirements of the receiving campus. Such students must fulfill all college, major, minor, certificate, and other degree requirements of the receiving campus.

Students who complete the System Associate Degree General Education Requirements at any SD Board of Regents institution and then transfer to another SD Board of Regents institution will have fulfilled the System Associate Degree General Education Requirements at the new institution even if the receiving institution has different credit/course distribution and approved course lists. All prerequisites for associate and baccalaureate programs must be completed as determined by the student's degree plan. See SDBOR Policy 2:5 for additional guidance on transfer of general education credits.

## Additional Guidelines for Baccalaureate Degrees

(SDBOR Policy 2:7, SDBOR Academic Affairs Guidelines 8.4)

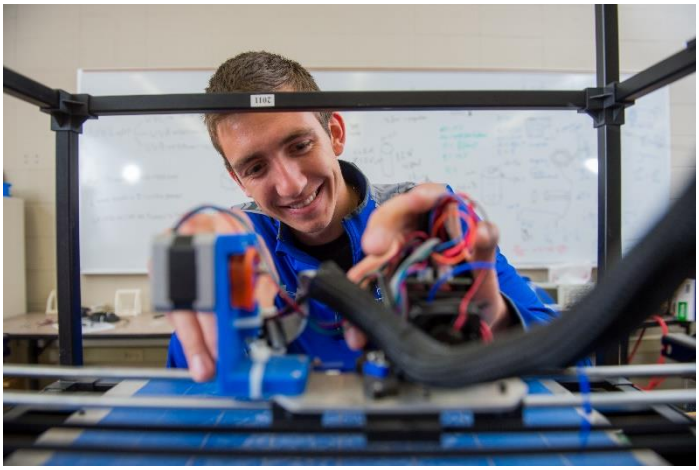
Effective fall 2017, System General Education Requirements, in general, will be completed in the first 90 credit hours of a baccalaureate degree program.

Students transferring from a South Dakota Technical College to a Regental campus who have previously earned an Associate of Applied Science degree will not automatically be judged as having fulfilled the general education requirements of the receiving campus. Such students must fulfill all college, major, minor, certificate, and other degree requirements of the receiving campus.

Students who complete the System General Education Requirements at any SD Board of Regents institution and then transfer to another SD Board of Regents institution will have fulfilled the System General Education Requirements at the new institution even if the receiving institution has different credit/course distribution and approved course lists. All prerequisites for associate and baccalaureate programs must be completed as determined by the student's degree plan. See SDBOR policy 2:5 for additional guidance on transfer of general education credits.

## Fraction of Credits for Transfer Students

Transfer credits applied to a general education goal meet the credit requirement if .33 credits (or fewer) remain for that goal. If .34 credits or greater remain to meet the minimum required credits for the goal, the student must take additional credits from the approved list of courses in the University Catalog. For example, a student who transferred in 5.67 credits towards the SGR #3 Social Science 6 credit requirement has met the goal.



# Graduation Requirements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Academic advisors assist with proper course selection to meet curricular requirements and help to avoid errors in scheduling. However, students have the final responsibility for satisfying the degree requirements for the curriculum chosen and for the university general education requirements.

The South Dakota State University Policy and Procedure Manual is the definitive source for the most current South Dakota State University policies. Policies duplicated on other websites or in print may not be the most current version. All policies documented on the site are official and supersede policies located elsewhere. South Dakota State University is governed by state and federal law, administrative regulations, and policies of the South Dakota Board of Regents (SDBOR) and the State of South Dakota.

## General Degree Requirements

(SDBOR Policy 2:29, SDBOR Policy 2:10)

1. Completion of at least 120 semester credit hours for the baccalaureate degree (see individual college requirements) and 60 semester credit hours for the associate degree. Remedial course credits are not counted as meeting degree requirements.
2. A Cumulative Grade Point Average (CGPA) of 2.00. The CGPA is based on all credits earned by the student, including transfer credit and Regental system credit. When a course has been repeated for credit, all attempts will be entered on the transcript, but the last grade earned will be used in the calculation of the cumulative grade point average.
3. Institutional credit requirements.
   - An institutional credit is a course offered by SDSU at any of its approved sites using any approved method of delivery. Courses that are a part of a formal collaborative agreement among Regental institutions are considered to be institutional.
   - The minimum number of credit hours that must be earned from the institution granting the degree are 30 credits for the baccalaureate degree and 15 credits for the associate degree.
   - The number of the last credit hours earned preceding completion of the degree that must be earned from the institution granting the degree are 15 of the last 30 credits for the baccalaureate degree and 8 of the last 15 credits for the associate degree.
   - The minimum number of credit hours specified in the major or minor requirements that must be completed from the institution granting the degree is 50 percent. However, this requirement may be waived for students enrolled in the set of majors offered at the system's Centers which include in the established programs of study common courses offered by one of the other Regental universities. In addition, the Vice President for Academic Affairs/Provost may make exceptions to this requirement for individuals based on the student's prior learning experiences.
   - Credits earned by examination are not counted as resident credit unless an exception has been made because of special program features.
   - A student must have 20 upper division level credits, 14 of which need to be at SDSU.
4. Completion of University general education requirements.
5. Completion of all college and major field requirements. Students pursuing more than one major must complete all requirements for the majors as set forth by the academic units involved. When the majors are offered within the same college or school and may be completed within the same degree program structure, students complete the requirements for only one degree, and only one degree is awarded. Students wishing to complete two undergraduate majors that are offered in separate colleges or schools, or in the same school or college, but not within the same degree program structure, must complete all requirements for each related degree, and two separate degrees are awarded. Completion of a second degree will not be allowed when both majors may be awarded under the same degree. Students may pursue minors outside the college/school of their major program.
6. With prior approval by the Board of an authorizing inter-institutional agreement degree seeking students at one institution may complete requirements for and may have transcripted a major offered at the partner Regental institution. This major will be recorded on the student's transcript in conjunction with a degree/major at the student's home university. These majors from a second institution will only be recorded on the transcript in conjunction with a degree and major at the student's home institution.
7. Degree seeking students may complete requirements for a minor at any Regental university that has been approved to grant that minor. This minor will be recorded on the transcript in conjunction with a degree/major at that university or a degree/ major at any other Regental university. A minor will only be recorded on the transcript in conjunction with a degree and major. Students may pursue and earn a minor in a term after initial graduation from SDSU. The minor must be currently active, and requirements must be met in the same catalog year as the original major.

## Catalog of Graduation for Undergraduate Students

(SDBOR Policy 2:17)

1. The catalog of graduation begins with the summer term and ends with the subsequent spring term.
2. Every student is required to have a catalog of graduation. New and transfer students are assigned the catalog in effect at the time of their initial enrollment at the university from which they are seeking a degree. Students may elect a catalog of graduation that is later than their initial catalog but may not elect a catalog of graduation that is earlier than their initial catalog.
3. In order to receive a degree, a student must meet the program requirements listed in his/her catalog of graduation.
4. Students who discontinue enrollment at any Regental university for more than two consecutive semesters are assigned the catalog in effect at the time of their re-enrollment as their catalog of graduation.
5. Students are considered to be in continuous enrollment for purposes of the catalog of graduation so long as any break in enrollment at any Regental university is for two or fewer consecutive semesters (excluding summer) and students maintain their degree seeking status at the same Regental university.
6. Students who change their degree seeking status from one Regental university to another Regental university are assigned the catalog of graduation that corresponds to the term they are admitted to their new degree granting university.
7. Former SDSU students who are not currently enrolled and apply to graduate are assigned the catalog in effect during the term they wish to graduate.

## Graduation Policies & Procedures

1. **Graduation Application - Date Due in Dean's Office.**
   Check the university calendar or the fall, spring, and summer semester calendar for dates.
2. **Incomplete grades in courses required for graduation.**
   Graduating Seniors and Graduate Students
   - Any graduating senior or graduating graduate student
     1. who receives an Incomplete or IP grade in the final semester in a course required for graduation **will not be permitted to graduate that semester but will be required to apply for graduation for a subsequent semester,**
        or
     2. who has not removed an outstanding Incomplete from a previous semester, in a course required for graduation, by the date grades are due for the semester **will not be permitted to graduate that semester but will be required to apply for graduation for a subsequent semester.**
   - Emergency situations require the filing of a petition by the student to the Dean for approval prior to the final grading deadline for the final semester.
3. **Incomplete grades in courses not required for graduation.**

- The student's record, up to the date of graduation, for that degree, is considered closed when the Registrar records the verified degree on the student's record (3 weeks after grades are due for the final semester prior to graduation).
- After that date, removals of Incompletes for courses not required for the degree are no longer permitted. **This policy also applies to grade changes or any other academic change to the student's record.**
- This policy has always been in effect but is reinforced in this policy statement.

4. **Graduation List.**
   Submission by the Deans of the final verified graduation list to the Registrar's Office.

   - Deadline for verification of degrees to the Registrar by the Deans will be 3 weeks after grades are due for the semester.
   - Prior to verification of the degree - all undergraduate transfer work in progress, or completed by the student, up to the date of graduation (whether required for graduation or not) must be evaluated by the Dean and recorded on the student's academic transcript.
   - It is the Dean's responsibility to ensure all requirements are met prior to approving the student for degree completion.

## Honors Designation at Graduation

(SDBOR Policy 2:10.10)

### Associate Degree

The institution granting the degree determines the Honors Designation for its associate-level graduates. To earn an Honors Designation at graduation, an associate-level graduate must meet both the following cumulative and institutional grade point averages:

With highest honor equal to or greater than 3.9
With high honor equal to or greater than 3.7 and less than 3.9
With honor equal to or greater than 3.5 and less than 3.7

An associate-level graduate must have completed a minimum of thirty (30) credit hours at the institution granting the degree. Courses that are part of a formal collaborative agreement among Regental universities are considered to be earned from the institution granting the degree. (Also refer to SDBOR Policy 2:29.)

### Baccalaureate Degree

The institution granting the degree determines the Honors Designation for its graduates. To earn an Honors Designation at graduation the undergraduate student must meet both the following cumulative and institutional grade point averages:

Summa Cum Laude equal to or greater than 3.9
Magna Cum Laude equal to or greater than 3.7 and less than 3.9
Cum Laude equal to or greater than 3.5 and less than 3.7

The undergraduate student must have completed a minimum of sixty (60) credit hours at the institution granting the degree. Courses that are part of a formal collaborative agreement among Regental universities are considered to be earned from the institution granting the degree. (Also refer to SDBOR Policy 2:29.)

## Minimum Graduation Standards

(SDBOR Policy 2:10.6)

To be awarded a baccalaureate degree, an associate degree or a certificate a student must at a minimum have a cumulative GPA of 2.0 or higher. With Board approval, additional requirements including more specific GPA requirements may be established for some programmatic offerings and these must be met.

# Colleges


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# College of Agriculture, Food & Environmental Sciences

John Killefer, South Dakota Corn Utilization Council Endowed Dean
College of Agriculture, Food and Environmental Sciences
Berg Agricultural Hall 131, Box 2207
605-688-4148

Vikram Mistry, Interim Associate Dean for Academic Programs
College of Agriculture, Food and Environmental Sciences
Berg Agricultural Hall 156, Box 2207
605-688-5133

## Overview

Undergraduate academic programs in the College of Agriculture, Food and Environmental Sciences lead to a Bachelor of Science degree with a variety of majors and minors. An Associate of Science degree is also available. Graduate degrees are offered in several disciplines. Students in agriculture enter a wide array of technical, professional, and business careers, many of which deal with producing, processing, financing, and marketing food and other agricultural products. Students also enter a variety of career areas related to natural resources, such as wildlife and fisheries biology, ecology, conservation, environmental science, and resource management. Many graduates in agriculture, food and environmental sciences are recruited by public agencies for employment in such services as forestry, parks, fish and wildlife, food safety and public health, conservation of natural resources, research laboratories, and many others. Many graduates pursue advanced degrees in graduate schools or professional schools such as veterinary medicine or law. In addition to academic programs, the College has extensive involvement in research and outreach/extension. Research for the benefit of South Dakota, the region, and the world is done in such areas as food science, agricultural production, natural resource management, agricultural economics, and biomass-based energy and products. SDSU Extension provides educational services statewide to promote the beneficial use and development of human, economic, and natural resources.

## Departments & Schools

- Department of Agricultural & Biosystems Engineering
- Department of Agronomy, Horticulture, & Plant Science
- Department of Animal Science
- Department of Dairy & Food Science
- Department of Natural Resource Management
- Department of Veterinary & Biomedical Sciences
- Ness School of Management & Economics

## Degrees Offered

Associate of Science
Bachelor of Science
Master of Science*
Doctor of Philosophy*

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Degree Requirements

Students seeking the Bachelor of Science degree must complete the System General Education Requirements. In some majors, the student must select a "specialization." Additional requirements for both Bachelor of Science degrees follow.

1. The requirements of one of the College's majors must be met. Specific requirements are listed under each program of study.
2. 25 semester credits must be upper division (300 and above), with the exception that MATH 125 and 225, Calculus II and III, may be counted as five credits toward the total.

### Bachelor of Science

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection to the student and the advisor.

**Courses**

- ABS 203 - Global Food Systems [SGR #3] Credits: 3
- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3
- ABS 482-582 - International Experience Credits: 2-4
- AGEC 271 - Farm and Ranch Management Credits: 3
- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
- AS 218 - Survey of Animal Nutrition Credits: 3
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3
- AST 202-202L - Construction Technology and Materials and Lab Credits: 2
- AST 213-213L - Ag, Industrial and Outdoor Power and Lab Credits: 3
- AST 333-333L - Soil and Water Mechanics and Lab Credits: 3
- AST 342-342L - Applied Electricity and Lab Credits: 3
- DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
- DS 231 - Dairy Foods Credits: 3
- EES 275 - Introduction to Environmental Science Credits: 3
- FS 101 - Introduction to Food Science Credits: 3
- FS 251 - Food Safety and Quality Management Systems Credits: 3
- HO 111-111L - Introduction to Horticulture and Lab Credits: 2, 1
- MICR 311-311L - Food Microbiology and Lab Credits: 4
- NRM 110 - People and the Environment Credits: 3
- NRM 221 - Introduction to Conservation Planning and Management Credits: 3
- NRM 282-282L - Natural Resource Statistics and Lab Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3
- PS 103-103L - Crop Production and Lab Credits: 2, 1
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- PS 223-223L - Principles of Plant Pathology and Lab Credits: 2, 1
- PS 405-405L/505-505L - Entomology and Lab (COM) Credits: 3
- PS 407-407L/507-507L - Insect Pest Management and Lab Credits: 2, 1
- RANG 205 - Introduction to Range Management [SGR #6] Credits: 3
- RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3

## Secondary Education Courses

Students planning to teach at the middle or high school level will apply for the teacher education program during EDFN 351 in Pre-Residency, which will typically start in the fall of the junior year. Students must then apply for a Residency placement for the senior year during EDFN 352. (See the College of Education & Human Sciences and the School of Education, Counseling & Human Development for further details.)

## Accreditations/Reviews

- American Association of Veterinary Laboratory Diagnosticians (AAVLD)
- American Society of Agricultural Engineering (ASAE)
- Society for Range Management
- Institute of Food Technologists

## Student Support & Engagement Opportunities

The College of Agriculture, Food and Environmental Sciences has a robust and rich history of engaging students in a variety of ways to foster their success while they are on campus. Whether it is joining one of our many student clubs that can be found in the college or becoming a part of the Living and Learning Community, there are plenty of ways to get involved. Engaging in such activities helps you not only connect with other students with a similar passion but can also connect you to current professionals within your area of study.

## Programs

One of the hallmarks of the College of Agriculture, Food and Environmental Sciences is its diversity with multiple departments, numerous majors and specializations, and hundreds of different courses from which to choose. The college offers premier curricula dispensed by faculty who are committed to student success.

### College of Agriculture, Food & Environmental Sciences

**Programs**

**Majors**

- Agricultural Education, Communication and Leadership (B.S.) - Agricultural Education Specialization
- Agricultural Education, Communication and Leadership (B.S.) - Communication Specialization
- Agricultural Education, Communication and Leadership (B.S.) - Leadership Specialization
- Agricultural Science (A.S.)
- Agricultural Science (B.S.)

**Minors**

- Bioprocessing Sciences Minor

**Certificates**

- Bioprocessing Sciences Certificate
- Wizipan Leadership and Sustainability Certificate

### Department of Agricultural & Biosystems Engineering

**Programs**

**Majors**

- Agricultural Systems Technology (B.S.)
- Precision Agriculture (B.S.)

**Minors**

- Precision Agriculture Minor

### Department of Agronomy, Horticulture, & Plant Science

**Programs**

**Majors**

- Agronomy (B.S.)
- Horticulture (B.S.)
- Precision Agriculture (B.S.)

**Minors**

- Agronomy Minor
- Crop Protection Minor
- Horticulture Minor
- Precision Agriculture Minor
- Soil Health Management Minor
- Sustainable Local Foods Minor

**Certification Preparation**

- Soil Science Certification

### Department of Animal Science

**Programs**

**Majors**

- Animal Science (B.S.) - Food Animal Health Specialization
- Animal Science (B.S.) - Industry Relations Specialization
- Animal Science (B.S.) - Production Management Specialization
- Animal Science (B.S.) - Science Specialization

**Minors**

- Animal Science Minor
- Equine Studies Minor
- Meat Science Minor
- Ranch Management Minor

**Certificates**

- Livestock and Animal Products Evaluation Certificate
- Swine Science Certificate

### Department of Dairy & Food Science

**Programs**

**Majors**

- Dairy Manufacturing (B.S.)
- Dairy Manufacturing (B.S.) - Microbiology Specialization
- Dairy Production (B.S.)
- Food Science (B.S.)

**Minors**

- Dairy Industry Minor
- Food Safety Minor

### Department of Natural Resource Management

**Programs**

**Majors**

- Conservation Planning and Park Management (B.S.) - Park Administration and Management Specialization
- Conservation Planning and Park Management (B.S.)
- Ecology and Environmental Science (B.S.)
- Ecology and Environmental Science (B.S.) - Rangeland Ecology and Management Specialization
- Natural Resource Law Enforcement (B.S.)
- Wildlife and Fisheries Sciences (B.S.)

**Minors**

- Botany Minor
- Rangeland Ecology and Management Minor

### Department of Veterinary & Biomedical Sciences

**Programs**

**Minors**

- Animal Health Minor

**Pre-Professional Interest Areas**

- Pre-Veterinary Medicine

### Ness School of Management & Economics

**Programs**

**Majors**

- Agricultural Business (B.S.)
- Economics (B.S.) - Agricultural Economics Specialization

**Minors**

- Agribusiness Marketing Minor
- Agricultural Business Minor
- Commodity Risk Management Minor
- Land Valuation and Rural Real Estate Minor

**Certificates**

- Agricultural and Environmental Law Certificate

# College of Arts, Humanities & Social Sciences

Lynn Sargeant, Dean
Jason Zimmerman, Associate Dean
College of Arts, Humanities and Social Sciences
Wagner Hall 251, Box 2275A
605-688-4723

## Overview

The College of Arts, Humanities and Social Sciences serves two significant functions within the University. It provides instruction in the University's core requirement for a liberal education as well as education in specific disciplines. A liberal education gives students the means to test ideas, beliefs, and facts. It exposes them to a variety of academic disciplines that will broaden and deepen their perspectives and enables them to continue the learning process as educated citizens. Students study the ways of thinking and expression that are intrinsic to the arts, humanities, and social sciences. Students receive education on the scientific method, critical thinking, analysis, synthesis, and cogent expression. They develop intellectual skills, humanistic understanding, and aesthetic appreciation. Such an education increases the usefulness of career planning and specialization by laying a foundation for lifelong values. The departments and programs in the College of Arts, Humanities and Social Sciences offer major and/or minor programs leading to certificates and associate, bachelor, master's, and doctoral degrees.

## Departments & Schools

- Department of Aerospace Studies
- Department of Architecture
- Department of English & Interdisciplinary Studies
- Department of Military Science
- Ness School of Management and Economics
- School of American & Global Studies
- School of Communication & Journalism
- School of Design
- School of Performing Arts
- School of Psychology, Sociology & Rural Studies

## Degrees Offered

Associate of Arts
Associate of Science
Bachelor of Arts
Bachelor of Fine Arts
Bachelor of General Studies
Bachelor of Landscape Architecture
Bachelor of Music Education
Bachelor of Science
Master of Architecture*
Master of Arts*
Master of Mass Communication*
Master of Science*
Doctor of Philosophy*

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Degree Requirements

All general university requirements must be met to qualify for the bachelor's degrees in the College of Arts, Humanities and Social Sciences. In addition, the following special requirements and rules have been established for all graduates of the College of Arts, Humanities and Social Sciences:

1. The requirements of one of the College of Arts, Humanities and Social Sciences departmental majors must be met. Specific requirements are listed under each department. Courses taken in the major may be used to fulfill university core requirements if the department does not state otherwise.
2. Bachelor's degrees in the College of Arts, Humanities and Social Sciences must include 33 semester credits from upper division courses (300 and above).
3. Capstone course in the major discipline.

Students seeking B.A., B.F.A., B.L.A., B.M.E., and B.S. degrees in the College of Arts, Humanities and Social Sciences must complete the System General Education Requirements (SGRs) and the College or School requirements. Specific requirements for each degree also include:

### Bachelor of Arts

- Modern Foreign Language including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3 (Teaching Specializations will complete AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3)
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor must be declared no later than the student's third semester of enrollment. Minor may be from any regental institution.

### Bachelor of Fine Arts

- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3 (Art Education Specialization will complete AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3)
- ART/DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3
- DSGN 110 - Creative Thinking Credits: 3
- DSGN 452 - Design Capstone Credits: 2
- School of Design Electives Credits: 4-6 (Refer to program requirements for the list of approved courses)

### Bachelor of Landscape Architecture

- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- ART/DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3
- DSGN 110 - Creative Thinking Credits: 3
- DSGN 452 - Design Capstone Credits: 2
- School of Design Electives Credits: 6 (Refer to program requirements for the list of approved courses)

### Bachelor of Music Education

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 or SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3

### Bachelor of Science

- Natural Sciences Credits: 10+
  - Any two lab sciences
  - Coursework must include two prefixes.
  - MATH and STATS courses do not count toward the Science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3 (Teaching Specializations will complete AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3)
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor must be declared no later than the student's third semester of enrollment. Minor may be from any regental institution.

**Approved Natural Sciences Courses for the College of Arts, Humanities and Social Sciences - Bachelor of Science**

- BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3
- BIOL 103-103L - Biology Survey II and Lab (COM) [SGR #6] Credits: 3
- BIOL 105 - Human Biology (COM) Credits: 3
- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3
- CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1
- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 115-115L - Atomic and Molecular Structure and Lab [SGR #6] Credits: 3, 1
- CHEM 127-127L - Structure and Function of Organic Molecules and Lab [SGR #6] Credits: 3, 1
- EES 275 - Introduction to Environmental Science Credits: 3
- GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4
- GEOG 132-132L - Physical Geography: Natural Landscapes and Lab (COM) [SGR #6] Credits: 4
- INFO 101 - Introduction to Informatics [SGR #6] Credits: 3
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- NRM 110 - People and the Environment Credits: 3
- NRM 200-200L - Animal Diversity and Lab Credits: 3
- NUTR 221 - Survey of Nutrition Credits: 3
- PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4
- PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4
- PHYS 185-185L - Solar System Astronomy and Lab (COM) [SGR #6] Credits: 3
- PHYS 187-187L - Stars, Galaxies, and Cosmology and Lab (COM) [SGR #6] Credits: 3
- PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4
- PS 103-103L - Crop Production and Lab Credits: 2, 1
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- PS 243 - Principles of Geology [SGR #6] Credits: 3
- PS 244 - Geological Resources of South Dakota Lab [SGR #6] Credits: 1
- RANG 205 - Introduction to Range Management [SGR #6] Credits: 3
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3

## Secondary Education Courses

Students planning to teach at the middle or high school level will take EDFN 101 as a prerequisite for admission to the Pre-Residency program, which will typically start in the fall of the junior year. Students must then apply for a Residency placement for the senior year. (See the College of Education & Human Sciences and the School of Education, Counseling & Human Development for further details.)

## Accreditations & Certification

- The Architecture program is accredited by the National Architectural Accrediting Board.
- The Interior Design program is accredited by the Council for Interior Designer Accreditation.
- The Journalism program is accredited by the Accrediting Council on Education in Journalism and Mass Communication.
- The Landscape Architecture program is accredited by the Landscape Architecture Accreditation Board.
- The Music program is accredited by the National Association of Schools of Music (good standing reaffirmed in 2011).
- The Teacher Education program is accredited by Council for the Accreditation of Educator Preparation.
- The Theatre program is accredited by the National Association of Schools of Theatre.

## Student Support & Engagement Opportunities

A variety of activities, including many extracurricular activities, are administered within the College of Arts, Humanities and Social Sciences.

### Dramatics

The School of Preforming Arts supervises State University Theatre presents a program of major and experimental productions each year. During the summer a season of plays in repertory are given by the Prairie Repertory Theatre in Brookings and Brandon.

### Forensics

The School of Communication and Journalism administers a forensics program in debate, public address, and oral interpretation of literature.

### Music Groups

The School of Preforming Arts sponsors a variety of vocal and instrumental groups. Membership may be by audition, arranged with the appropriate director, and is open to all University students regardless of major. Credit can be awarded for participation. Choral. Concert Choir, Statesmen (Men's Chorus), University Women's Choir, and Opera Workshop. Instrumental. Civic/University Symphony Orchestra, Marching Band (The "Pride of the Dakotas"), Pep Bands, Symphonic Band, Concert Band, Jazz Ensembles and various Percussion, Woodwind and Brass small ensembles.

### The Ritz Art Gallery

The Ritz Gallery sponsors an annual program of professional and student exhibitions, including the Juried Student Exhibition which is open to all SDSU students.

## Programs

### College of Art, Humanities & Social Sciences

**Programs**

**Majors**

- General Studies (A.A.)
- General Studies (B.G.S.)

**Minors**

- Museum Studies Minor
- Women, Gender, and Sexuality Studies Minor

### Department of Aerospace Studies

**Programs**

**Minors**

- Aerospace Studies Minor

### Department of Architecture

**Programs**

**Majors**

- Architecture (B.F.A.)

### Department of English

**Programs**

**Majors**

- English (B.A.)
- English (B.A.) - English Education Specialization
- English (B.A.) - Writing Specialization
- Interdisciplinary Studies (B.A./B.S.)

**Minors**

- English Minor
- Professional Writing Minor

### Department of Military Science

**Programs**

**Minors**

- Military Science Minor

### Ness School of Management & Economics

**Programs**

**Majors**

- Business Economics (B.A./B.S.)
- Economics (B.A./B.S.)
- Entrepreneurial Studies (B.A./B.S.)

**Minors**

- Accounting Minor
- Economics Minor
- Entrepreneurial Studies Minor
- Human Resources Minor
- Management Minor
- Marketing Minor

**Certificates**

- New Product and Venture Development Certificate

### School of American & Global Studies

**Programs**

**Majors**

- American Indian and Indigenous Studies (B.A.)
- French Studies (B.A.)
- French Studies (B.A.) - Teaching Specialization
- German (B.A.) - Teaching Specialization
- German (B.A.)
- Global Studies (B.A.)
- History (B.A./B.S.)
- History (B.A./B.S.) - Teaching Specialization
- Political Science (B.A./B.S.)
- Spanish (B.A.)
- Spanish (B.A.) - Teaching Specialization

**Minors**

- American Indian and Indigenous Studies Minor
- French Studies Minor
- German Minor
- Global Studies Minor
- History Minor
- Legal Studies Minor
- Philosophy Minor
- Political Science Minor
- Religion Minor
- Spanish Minor

**Certificates**

- Workplace Intercultural Competence Certificate

**Pre-Professional Interest Areas**

- Pre-Law
- Pre-Ministerial

### School of Communication & Journalism

**Programs**

**Majors**

- Advertising (B.A./B.S.)
- Communication Studies (B.A./B.S.)
- Communication Studies (B.A./B.S.) - Speech Education Specialization
- Journalism (B.A./B.S.)
- Public Relations (B.A./B.S.)

**Minors**

- Advertising Minor
- Communication Studies Minor
- Digital and Social Media Minor
- Health Communication Minor
- Journalism Minor
- Public Relations Minor

### School of Design

**Programs**

**Majors**

- Architecture (B.F.A.)
- Graphic Design (B.F.A.)
- Interior Design (B.F.A.)
- Landscape Architecture (B.L.A.)
- Studio Art (B.F.A.) - Art Education Specialization
- Studio Art (B.F.A.) - Ceramics Specialization
- Studio Art (B.F.A.) - Painting Specialization
- Studio Art (B.F.A.) - Printmaking Specialization
- Studio Art (B.F.A.) - Sculpture Specialization

**Minors**

- Design Studies Minor
- Film Studies Minor
- Graphic Design Minor
- History of Art and Design Minor
- Studio Arts Minor

**Certificates**

- Animation Certificate
- Art History Certificate
- Ceramics Certificate
- Graphic Design Minor
- Painting Certificate
- Printmaking Certificate
- Sculpture Certificate

### School of Performing Arts

**Programs**

**Majors**

- Music (B.A.) - Music Entrepreneurship Specialization
- Music (B.A.) - Music Studies Specialization
- Music Education (B.M.E.)
- Theatre (B.A./B.S.)

**Minors**

- Dance Minor
- Music Minor
- Performing Arts Administration Minor
- Theatre Minor

### School of Psychology, Sociology & Rural Studies

**Programs**

**Majors**

- Criminology (B.A./B.S.)
- Psychology (B.A./B.S.)
- Psychology (B.A./B.S.) - Teaching Specialization
- Sociology (A.S.)
- Sociology (B.A./B.S.)
- Sociology (B.S.) - Teaching Specialization

**Minors**

- Criminal Justice Minor
- Mental Health Services Minor
- Psychology Minor
- Social and Human Services Minor
- Sociology Minor
- Youth and Community Work Minor

# College of Education & Human Sciences

Paul Barnes, Dean
Matt Vukovich, Associate Dean for Research
College of Education and Human Sciences
Wagner Hall 249, Box 2275A
605-688-6181

## Overview

The College of Education and Human Sciences enhances human potential and well-being through the integration of:

- exemplary student-centered undergraduate and graduate education that prepares tomorrow's professionals;
- discovery and scholarship that is nationally and internationally recognized for addressing human and community needs; and
- engagement with individuals, families, schools, and communities that transforms knowledge and discovery into meaningful impacts.

Graduates of the College of Education and Human Sciences transform the lives of people around the world every day. They work in diverse work settings which span the healthcare industry, education, business, government, and non-profit or community agencies.

Education and Human Sciences graduates include: teachers who provide leadership in their classrooms and communities; dietitians who counsel others to establish a healthy or specialized diet; financial counselors working with families to manage their resources; wellness professionals who works across the lifespan to promote good health practices for people of all ages; a pilot serving our country; a gerontology specialists working with the elderly, or a professional counselor supporting the development of others. These are but a few of the rewarding, and in demand, careers that EHS graduates pursue. We have successful marketing professionals, business leaders, healthcare professionals, and educators across the nation who reflect our mission of enhancing human potential.

## Schools

- School of Education, Counseling & Human Development
- School of Health & Consumer Sciences

## Degrees Offered

Associate of Science
Bachelor of Science
Master of Education*
Master of Science*
Doctor of Philosophy*

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Degree Requirements

Students selecting majors in the College of Education and Human Sciences must meet the General Education, College, and specific major requirements pertinent to the field and profession in order to earn a Bachelor of Science degree. For a complete listing of graduation requirements, refer to the description of specific majors in this catalog.

## Teaching Certificates & Endorsements

Teaching certificates are issued by state Department of Education. The secondary certificate qualifies the holder to teach particular subjects in grades six through twelve. The K-12 certificate qualifies the holder to teach in kindergarten through high school. The certificate states the subjects or subject groups in which the individual may teach. Endorsements can be gained by either Praxis exam or through coursework to prepare students for endorsements are available in English as a Second Language, coaching, reading, and over 20 discipline-specific content areas. More specific information about certificate and endorsement requirements at https://doe.sd.gov/certification/.

## Accreditations

- Accreditation Commission for Programs in Hospitality Administration (ACPHA)
- Accreditation Council for Education of Nutrition and Dietetics (ACEND)
- Academy of Nutrition and Dietetics (ACEND)
- Aviation Accreditation Board International (AABI)
- Commission on Accreditation of Allied Health Education Programs (CAAHEP)
- Commission on Accreditation of Athletic Training Education (CAATE)
- Council for Accreditation of Counseling and Related Educational Programs (CACREP)
- Council for the Accreditation of Educator Preparation (CAEP)
- Council on Rehabilitation Education (CORE)
- National Association for Education of Young Children (NAEYC)
- South Dakota Department of Education (DOE)

## Student Support & Engagement Opportunities

Many majors in the College of Education and Human Sciences provide opportunities to become familiar with the world of work as related to the major. Field experiences, practicums, and internships are available and often required. EHS also offers its students opportunities for personal, academic, and career growth through involvement in clubs and organizations.

## Programs

The College offers numerous majors and minors with a common focus of creating, analyzing, disseminating, and applying knowledge that enriches development and enhances the human potential.

### School of Education, Counseling & Human Development

**Programs**

**Majors**

- Agricultural Education, Communication and Leadership (B.S.) - Agricultural Education Specialization (offered in partnership with College of Agriculture, Food and Environmental Sciences)
- Early Childhood Education (B.S.) - Birth to 8 Specialization
- Early Childhood Education (B.S.) - Cooperative Elementary Education Program with DSU
- Early Education and Care (B.S.)
- Family and Consumer Sciences Education (B.S.)
- Human Development and Family Services (A.S.)
- Human Development and Family Studies (B.S.)

**Minors**

- Early Childhood Education Minor
- Gerontology Minor
- Human Development and Family Studies Minor
- Rehabilitation Services Minor

**Certification Preparation**

- Education Curriculum for Teachers of Academic Subjects
- Secondary Teacher Education - Certification Only

**Endorsements**

- Early Childhood Education Kindergarten Education Endorsement
- Early Childhood Special Education Endorsement

### School of Health & Consumer Sciences

**Programs**

**Majors**

- Aviation (B.S.) - Aviation Education Specialization
- Aviation (B.S.) - Aviation Maintenance Management Specialization
- Community and Public Health (B.S.)
- Consumer Affairs (B.S.) - Consumer Services Management Specialization
- Consumer Affairs (B.S.) - Family Financial Management Specialization
- Exercise Science (B.S.)
- Fashion Studies and Retail Merchandising (B.S.)
- Hospitality, Tourism, and Event Management (B.S.)
- Leadership and Management of Nonprofit Organizations (B.S.)
- Nutrition and Dietetics (B.S.)
- Physical Education Teacher Education (B.S.)
- Sport and Recreation Management (B.S.)

**Minors**

- Apparel and Fashion Studies Minor
- Aviation Minor
- Events and Facilities Administration Minor
- Financial Counseling Minor
- Health Education Minor
- Leadership and Management of Nonprofit Organizations Minor
- Leadership Minor
- Nutrition Minor
- Recreation Administration Minor
- Retail Merchandising Minor

**Certification Preparation**

- Athletic Coaching Certification

**Pre-Professional Interest Areas**

- Pre-Athletic Training
- Pre-Occupational Therapy
- Pre-Physical Therapy

# College of Natural Sciences

Charlene Wolf-Hall, Dean
Greg Heiberger, Associate Dean for Academics and Student Success
College of Natural Sciences
Avera Health and Science Center 131
605-688-4420

## Overview

The College of Natural Sciences provides degree programs in natural and physical sciences which are foundational to all professional, applied, and technical fields. A degree in physics explores the fundamental physical characteristics of matter, its motion and behavior through space and time through concepts of energy and force. Chemistry and biochemistry provide a study of the composition, structure, behavior and change of atoms, molecules, and macromolecules. A degree in the biological sciences provides a fundamental understanding of physiological mechanisms and development, providing a framework describing the processes of life and living organisms. Geography studies Earth's environments, landscapes, peoples, and places, including natural science (physical geography), social science (human geography), and geospatial science (GIScience), to understand how human and natural complexities have changed over time and how they have come to exist in their current form. Students of the College of Natural Sciences are well-prepared for the scientific workforce as well as for advanced studies in professional and graduate school. Due to this broad, comprehensive education, our graduates have excelled not only in their chosen field but also in engineering, business, human science, and the social sciences.

## Departments

- Department of Biology & Microbiology
- Department of Chemistry & Biochemistry
- Department of Geography & Geospatial Sciences
- Department of Physics

## Degrees Offered

Bachelor of Arts
Bachelor of Science
Master of Science*
Doctor of Philosophy*

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Secondary Education Courses

Students planning to teach at the middle or high school level will take EDFN 101 as a prerequisite for admission to the Pre-Residency program, which will typically start in the fall of the junior year. Students must then apply for a Residency placement for the senior year. (See the College of Education & Human Sciences and the School of Education, Counseling & Human Development for further details.)

### Accreditations & Certification

- The Department of Chemistry and Biochemistry is accredited by the American Society for Biochemistry and Molecular Biology.

### Programs

#### Department of Biology & Microbiology

**Programs**

**Majors**

- Biology (B.S.)
- Biology (B.S.) - Secondary Education Specialization
- Biotechnology (B.S.)
- Human Biology (B.S.)
- Microbiology (B.S.)

**Minors**

- Biology Minor
- Microbiology Minor

**Pre-Professional Interest Areas**

- Pre-Chiropractic
- Pre-Dental
- Pre-Medicine
- Pre-Mortuary
- Pre-Optometry
- Pre-Physician Assistant

#### Department of Chemistry & Biochemistry

**Programs**

**Majors**

- Biochemistry (B.S.)
- Chemistry (B.S.)
- Chemistry Education (B.S.)

**Minors**

- Chemistry Minor

#### Department of Geography & Geospatial Sciences

**Programs**

**Majors**

- Community and Regional Planning (B.S.)
- Geographic Information Sciences (B.S.)
- Geography (B.A./B.S.)

**Minors**

- Geographic Information Sciences Minor
- Geography Minor
- Sustainability Minor

**Certificates**

- Geographic Information Sciences Certificate
- Unmanned Aircraft Systems Certificate

#### Department of Physics

**Programs**

**Majors**

- Physics (B.S.)
- Physics (B.S.) - Science Teaching Specialization

**Minors**

- Nuclear Engineering Minor
- Physics Minor

## College of Nursing

Mary Anne Krogh, Dean
Heidi Mennenga, Interim Associate Dean for Academic Programs
College of Nursing
Wagner Hall 255, Box 2275
605-688-5178 or 1-888-216-9806 Ext. 2

### Overview

The College of Nursing strives for excellence in undergraduate and graduate education, research, scholarship, and health services to diverse individuals, communities and populations across the life span. The college improves human health and quality of life for people in the state of South Dakota, the region, the nation and the world. The vision of the College is to be a national leader in accessible and quality undergraduate and graduate nursing education and be recognized across health disciplines, and to prospective students, alumni and nursing leaders as innovative scholars and researchers who improve human health through strategic partnerships and interprofessional collaboration that shapes new delivery models of quality health care and nursing education.

### Departments

- Graduate Nursing
- Nursing Student Services
- Nursing Research
- Undergraduate Nursing

### Degrees

Bachelor of Science in Nursing
Master of Science
Doctor of Nursing Practice
Doctor of Philosophy

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Accreditations

South Dakota Board of Nursing (approval)
Commission on Collegiate Nursing Education (CCNE)

### Diversity Statement

Recognizing the growing diversity of the nation's population, and in support of a key goal from many national organizations to eliminate health disparities, the College of Nursing faculty and staff seek to admit and graduate students who value, respect and reflect the diversity of the society in which they will learn and practice.

## Programs

### Department of Graduate Nursing

**Programs***

**Master's Degrees**

- Nursing (M.S.) - Clinical Nurse Leader Specialization
- Nursing (M.S.) - Family Nurse Practitioner Specialization
- Nursing (M.S.) - Nurse Administrator Specialization
- Nursing (M.S.) - Nurse Educator Specialization
- Nursing (M.S.) - Psychiatric Mental Health Nurse Practitioner Specialization

**Doctoral Degrees**

- Nursing (Ph.D.)

**Professional Doctoral Degrees**

- Nursing (D.N.P.)
- Nursing (D.N.P.) - Family Nurse Practitioner Specialization
- Nursing (D.N.P.) - Psychiatric Mental Health Nurse Practitioner Specialization

**Certificates**

- Post-Graduate Clinical Nurse Leader Certificate
- Post-Graduate Family Nurse Practitioner Certificate
- Post-Graduate Nurse Educator Certificate
- Post-Graduate Psychiatric Mental Health Nurse Practitioner Certificate

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Department of Undergraduate Nursing

**Programs**

**Majors**

- Nursing (B.S.N.)
- Nursing (B.S.N.) - Accelerated Program
- Nursing (B.S.N.) - RN to B.S.N.

**Minors**

- Health Science Minor

# College of Pharmacy & Allied Health Professions

Dan Hansen, Dean
Teresa Seefeldt, Associate Dean for Academic Programs
James Clem, Associate Dean of Student Services
College of Pharmacy and Allied Health Professions
Avera Health and Science Center 133, Box 2202C
605-688-6197

## Overview

The mission of the South Dakota State University College of Pharmacy and Allied Health Professions is to provide high quality, interprofessional, student-centered education; foster discovery through innovative research and scholarship; and advance the provision of health care. The College is nationally recognized for excellence in preparing students to provide high quality, patient-centered and population-based health care. Our undergraduate programs feature learning opportunities in the health care setting as well as educational experiences with students from other health care professions. Research teams of faculty and students are making progress on projects that can enhance the health and wellbeing of people around the world. The College's growing research portfolio includes oncology, unique drug delivery systems, addiction to drugs and alcohol, cardiovascular health, ophthalmic medicine, and new models of care.

## Departments

- Department of Allied & Population Health
- Department of Pharmaceutical Sciences
- Department of Pharmacy Practice

## Degrees Offered

Associate of Science
Bachelor of Science
Master of Public Health
Master of Science
Doctor of Pharmacy
Doctor of Philosophy

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Degree Requirements/Regulations

### Doctor of Pharmacy Program

The College of Pharmacy and Allied Health Professions offers a six-year course of study (2-year pre-pharmacy and 4-year professional program phase) leading to an entry level Doctor of Pharmacy degree. The Pharm.D. is a professional degree which enables graduates to pursue diverse career opportunities and ensures that their pharmacy education prepares them for future changes in the profession. The program provides unique opportunities for students who want to make a significant contribution to the health care needs of today's society.

#### Preparation for the Major

In high school, the student should take an academic curriculum in preparation for entrance to college. A sound basic education in science and mathematics courses is an essential part of preparation for the study of pharmacy. Good written and verbal communication skills are important. Students planning to transfer from another college or university should consult with the College of Pharmacy and Allied Health Professions early in their academic careers to plan coursework that will transfer to the College of Pharmacy and Allied Health Professions and meet pre-pharmacy requirements.

Additional information regarding the Pharmacy Major can be found under the Pharmacy Major section.

### Medical Laboratory Science Program

The Medical Laboratory Science degree contains two years of pre-MLS and 2 years of MLS coursework as either a fully face-to-face on campus program or an online program for practicing associate degree professionals (upward mobility program). Students must meet all of the system and general education requirements, as well as complete the specific program requirements as listed in the specific MLS degree option.

### Respiratory Care Program

The respiratory care programs are designed as either an associate or bachelor's degree in respiratory care. The first fall and spring semesters of the A.S. program completing general education requirements. After the first year's classes are completed, the student has class and clinical experiences at the primary clinical affiliate hospitals. Following completion of the A.S. portion, students can complete the B.S. degree (third and fourth year). Students must complete the general education requirements and the program specific requirements outlined in the specific degree option.

## Accreditations

- Accreditation Council for Pharmacy Education (ACPE)
- Commission on Accreditation for Respiratory Care (CoARC)
- National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

## Student Support & Engagement Opportunities

### Doctor of Pharmacy Program

Membership in the Student Collaboration for the Advancement and Promotion of Pharmacy is open to all students in the College, including pre-pharmacy students. Kappa Psi and Kappa Epsilon are pharmacy fraternities for men and women. Rho Chi and Phi Lambda Sigma are scholastic and leadership organizations, respectively. The American Association of Pharmaceutical Scientists is an organization representing scientists working in the discovery, development, and manufacture of pharmaceutical products and therapies. The major goals of these organizations are to provide a better appreciation of the scope and aims of the profession and to develop leadership potential.

### Medical Laboratory Science Program

Membership in the SDSU Medical Laboratory Science club is open to all MLS students. Rho Lambda Tau National Medical Laboratory Honor Society is a scholastic and leadership organization. These organizations provide students with experience in networking and leadership as a health care professional.

## Programs

### Majors

- Medical Laboratory Science (B.S.)
- Medical Laboratory Science (B.S.) - Accelerated Program
- Medical Laboratory Science (B.S.) - Upward Mobility Program
- Pharmaceutical Sciences (B.S.) in preparation for the Doctor of Pharmacy (Pharm.D.)
- Respiratory Care (A.S.)
- Respiratory Care (B.S.)

### Certificates

- Phlebotomy Certificate

### Graduate Programs*

- Master of Public Health (M.P.H.)
- Pharmaceutical Sciences (M.S.)
- Pharmaceutical Sciences (Ph.D.)
- Pharmacy (Pharm.D.)
- Public Health Certificate

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

# Graduate School

Nicole Lounsbery, Director
Graduate School
130 Morrill Hall, Box 2201
605-688-4181

## Overview

SDSU granted its first Master's degree in 1891. In 1957 the Graduate School was established. The Graduate Faculty is composed of the President, Provost and Vice President for Academic Affairs, Vice President for Administration, Vice President for Student Affairs, Vice President for Research and Economic Development, academic deans, heads of departments in which graduate courses are given, and other faculty members chosen on the basis of their background and experience. These faculty members teach graduate level courses and serve as advisers to graduate students or on advisory examining committees.

The Graduate School is committed to providing an atmosphere for qualified students to obtain rigorous advanced education in a variety of fields in preparation for service and leadership in their professions and society. It also promotes scholarly pursuits and scientific research for the advancement of knowledge.

## Departments

The Graduate School operates as a single unit that serves the academic colleges.

## Degrees Offered

Master of Architecture
Master of Arts
Master of Education
Master of Engineering
Master of Mass Communication
Master of Public Health
Master of Science
Doctor of Nursing Practice
Doctor of Pharmacy
Doctor of Philosophy

## Admission to the Graduate School

For information regarding admission to the Graduate School, departments offering graduate instruction, available graduate courses, as well as information on graduate fellowships and assistantships, call the Graduate School Office 605-688-4181 or access the Graduate School webpage.

## Programs

For details, see the Graduate Catalog available online.

# Jerome J. Lohr College of Engineering

Bruce W. Berdanier, Dean
Jerome J. Lohr College of Engineering
Crothers Engineering Hall 201, Box 2219
605-688-4161

## Overview

Engineering programs have been a vital part of SDSU since 1881, and graduates of the Jerome J. Lohr College of Engineering have extended the bounds of science and improved our way of life in many ways. The College has a rich history and long tradition of providing outstanding graduates who are well prepared for exciting careers in engineering, mathematics, science, and technology. The six academic departments of the College offer a broad range of major and minor programs, each with its unique features that ensure the student of both depth and breadth in their field of study. The mission of the College is to provide a rigorous, practical education for our students oriented toward problem solving; to conduct world-class research with a regional emphasis; and to provide technical assistance to existing and emerging business, industry, and government.

## Departments

- Department of Agricultural & Biosystems Engineering
- Department of Civil & Environmental Engineering
- Department of Construction & Operations Management
- Department of Electrical Engineering & Computer Science
- Department of Mathematics & Statistics
- Department of Mechanical Engineering

## Degrees Offered

Associate of Science
Bachelor of Science
Master of Engineering*
Master of Science*
Doctor of Philosophy*
* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Degree Requirements

Students selecting majors in the Jerome J. Lohr College of Engineering must meet the General Education, College, and specific major requirements pertinent to the field and profession in order to earn a Bachelor of Science degree. The College recognizes the importance of the general education component of undergraduate education, and the need for this component to complement the technical content of an education in engineering, mathematics, science and technology. This connection is important for producing well-rounded graduates who will continue to meet the present and future needs of society. By choosing their electives to meet the requirements of the goals of the System General Education Requirements students connect their general education component to their technical curriculum and thus strengthen their professional competence. For a complete listing of graduation requirements, refer to the description of specific majors in this catalog.

## Accreditations

The programs: Agricultural and Biosystems Engineering (B.S.), Civil Engineering (B.S.), Electrical Engineering (B.S.), and Mechanical Engineering (B.S.) are accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org.

The Computer Science (B.S.) program is accredited by the Computing Accreditation Commission of ABET, https://www.abet.org.

The Construction Management (B.S.) and Operations Management (B.S.) programs are accredited by the Applied and Natural Sciences Accreditation Commission of ABET, https://www.abet.org.

The Electronics Engineering Technology (B.S.) program is accredited by the Engineering Technology Accreditation Commission of ABET, https://www.abet.org.

## Facilities & Services

The facilities of the Jerome J. Lohr College of Engineering are excellent and include numerous hands-on instructional laboratories that are equipped with state-of-the-art equipment. The extensive laboratory learning experience reinforces the underlying theory taught in the lecture courses. The College also provides computer laboratory facilities and areas for students. In the spirit of the land-grant mission, the College also supports numerous professional outreach services in the region through the Engineering Extension program and the SD Local Transportation Assistance Program.

## Student Support & Engagement Opportunities

### Scholarships

The Jerome J. Lohr College of Engineering supports many of its students with academic scholarships. Students apply for these scholarships in the winter and awards are made for the following academic year. Individual departments within the College also offer their own department-specific scholarships, which may have their own application and review process. Information on the extensive scholarship opportunities for students can be found on the web sites for both the College and the specific academic program of interest.

### Academic Advising

Each student is assigned an academic advisor who provides valuable assistance with professional career and personal advice, course planning and scheduling. The advisor is familiar with the student's field, as well as all curricular requirements for graduation. Students should meet with their advisor at least twice per semester for assistance with their progress and course planning. Students may request a change in their academic advisor by contacting their department office.

### Internships & Career Opportunities

SDSU's Jerome J. Lohr College of Engineering is one of the region's leading producers of computer scientists, engineers, mathematicians, statisticians, and technologists. The college enjoys a close partnership with many local and regional employers. Of course, this offers students exceptional opportunities for employment both before and after graduation.

### Licensure

Many students choose an engineering career requiring professional licensure, and SDSU students score very well in the required examinations. Engineering majors typically score above the national average on the Fundamentals in Engineering examination taken near the time of graduation. This national exam is required along with work experience and a state specific licensing exam to become a registered Professional Engineer in each state.

## Programs

The Jerome J. Lohr College of Engineering offers the Bachelor of Science degree in numerous high-demand fields, as well as a variety of minors to supplement a student's major program of study.

### Department of Agricultural & Biosystems Engineering

**Programs**

**Majors**

- Agricultural and Biosystems Engineering (B.S.)

**Minors**

- Engineering for Precision Agriculture Minor

### Department of Civil & Environmental Engineering

**Programs**

**Majors**

- Civil Engineering (B.S.)

### Department of Construction & Operations Management

**Programs**

**Majors**

- Concrete Industry Management (B.S.)
- Construction Management (B.S.)
- Construction Technology (A.S.)
- Electronics Engineering Technology (B.S.)
- Engineering Technology (A.S.)
- Operations Management (B.S.)

**Minors**

- Construction Minor
- Engineering Management Minor
- Heavy-Highway Construction Minor
- Mechatronics Technology Minor

**Certificates**

- Engineering Graphics Certificate
- Pre-Construction Planning Certificate

### Department of Electrical Engineering & Computer Science

**Programs**

**Majors**

- Computer Science (B.S.)
- Electrical Engineering (B.S.)

**Minors**

- Computer Engineering Minor
- Computer Science Minor
- Informatics Minor
- Software Engineering Minor

### Department of Mathematics & Statistics

**Programs**

**Majors**

- Data Science (A.S.)
- Data Science (B.S.)
- Mathematics (B.S.)
- Mathematics (B.S.) - Data Science Specialization
- Mathematics (B.S.) - Teaching Specialization

**Minors**

- Data Science Minor
- Mathematics Minor
- Statistics Minor

### Department of Mechanical Engineering

**Programs**

**Majors**

- Mechanical Engineering (B.S.)
- Mechanical Engineering (B.S.) - Aerospace Engineering Specialization

**Minors**

- Aerospace Engineering Minor
- Biomedical Engineering Minor
- Sustainable Energy Systems Minor

# Van D. & Barbara B. Fishback Honors College

Rebecca Bott-Knutson, Dean
Van D. and Barbara B. Fishback Honors College
Honors Hall 119, Box 2705A
605-688-5268

## Committee

Rebecca Bott-Knutson, Dean; Committee Members: Rosie Nold (College of Agriculture, Food & Environmental Sciences), Evren Celik-Wiltse (College of Arts, Humanities and Social Sciences), Greg Peterson (College of Arts, Humanities and Social Sciences), Valerie Albert (College of Education & Human Sciences), Ross Abraham (Jerome J. Lohr College of Engineering), Robert Fourney (Jerome J. Lohr College of Engineering), Fathi Halaweish (College of Natural Sciences), Robin Brown (College of Nursing), Joshua Reineke (College of Pharmacy & Allied Health Professions), and Matthew Badura (Wintrode Student Success Center).

## Overview

The Van D. and Barbara B. Fishback Honors College at South Dakota State University provides talented, motivated students in any major with an enriched, personalized curricular pathway and experiential learning opportunities, which allow them to maximize their learning at South Dakota State University.

## Objectives

### Mission

The Mission of Van D. and Barbara B. Fishback Honors College at South Dakota State University is to provide talented, motivated students with a personalized, engaging, distinctive academic and enrichment experience that will position them for success as lifelong learners and leaders.

### Vision

We will provide the rigor, opportunity, and community necessary to equip our graduates with the skills and ethic to go into the world reaching under-served audiences, elevating those around them, and using their gifts in service of others.

We serve as an engine of opportunity to elevate, enrich, and enliven the student experience at South Dakota State University.

### Guiding Values

- **Academic quality:** The Honors College represents the university's highest academic ideals. Honors students practice higher order thinking skills in rigorous academic environments, guided by passionate, committed teachers and scholars, and characterized by excellence in pedagogy and mentoring.
- **Collaboration, integration, and coordination:** The Honors College engages in strong, trusting relationships with partners on and off campus, including academic colleges and departments, the Office of Academic Affairs, Student Affairs units (e.g. Admissions, Residential Life, Registration and Records, Scholarship Services), and off-campus units such as employers and agencies.
- **Diverse perspectives and multidisciplinary approaches:** The Honors College values, embraces, and supports diversity in all its forms. By encompassing diverse people, cultures, disciplines, ideas, and experiences, the Honors student's education is enhanced. With a classic interpretation of the role of the university and a campus-wide presence, the Honors College values and encourages diverse, collaborative academic pursuits, including arts, humanities, social sciences, mathematics, science, engineering, agriculture, nursing, and pharmacy.
- **Engagement, service, and leadership development:** The Honors College fosters and supports well-rounded educational approaches that develop whole persons and empowered citizens. Opportunities for student involvement on campus and in the community, in addition to targeted leadership development and service learning experiences are encouraged.
- **Community:** The Honors College develops and maintains respectful, caring, trusting, collegial relationships between faculty and staff members, students, administrators. and community partners. These relationships are characterized by transparency, integrity, openness, dialog, growth, accountability, kindness, and mutual support.

- **Innovation and experimentation:** The Honors College provides leadership and support for wise risk-taking and creative, progressive, responsive approaches to teaching, learning, student development, and scholarly pursuits. We assess what we learn and leverage this lessons in a spirit of constant program improvement.
- **Global perspectives:** Honors students and faculty demonstrate global awareness and cross-cultural competence. These perspectives are infused throughout the Honors curriculum and fostered through development and participation in international travel/study/work/service programs.
- **Broader view:** The Honors College benefits from looking outside the organization. Through involvement in regional, national, and international organizations and by promoting participation in nationally and internationally recognized fellowship, internship, and scholarship programs, rich new perspectives are developed that enhance the scholarly life and academic experience of our faculty and students.
- **Research, scholarship, and creative activities:** Through successful completion of Honors coursework and independent study projects, Honors students are exposed to the scholarly life, taste the excitement of discovery, and are well prepared for advanced study. Honors faculty are leaders in research and the scholarship of teaching and learning whose experiences are shared on campus, nationally, and internationally.
- **Ethics and integrity:** The values of ethics and integrity are prized in the Honors College. Students and faculty strive to give honor and to be honorable human beings.

### Strategic Intent

- The strategic intent of the Van D. and Barbara B. Fishback Honors College is to be nationally recognized, locally relevant, accessible Honors College that is recognized for excellence on campus, in the region, and across the nation as providers of a world class academic and co-curricular experiences for undergraduate students.

## Facilities & Services

The Van D. and Barbara B. Fishback Honors College is headquartered in Honors Hall. Facilities include Dean's Office/Administrative suite, conference room, and student library in addition to residential accommodations for 200 Honors College students. The Hall is also home to the Honors College classroom, a basement community building space, outdoor courtyard, and kitchens, group study rooms and lounges on each wing of the hall. Honors Hall is the hub of academic and enrichment programming for Honors College students and faculty.

## Student Support & Engagement Opportunities

The Van D. and Barbara B. Fishback Honors College encourages its students to engage as leaders in all aspects of campus and community life. Indeed, Honors students can be found in athletic teams, musical ensembles, student government, research laboratories, and faith-based organizations, among others. In addition, special Honors student engagement opportunities include the Honors College Student Organization, Honors conferences, and the Dean's Student Advisory Council. Annual Honors events include a Hike and Read Retreat, Faculty Potluck, Town Hall, Convocation, and Medallion Ceremony. Students and faculty are also actively engaged in regional and national Honors organizations.

- **Honors College Student Organization (HCSO):** HCSO is the club for Honors students from every major and is a great way to build community with other Honors students and faculty. Activities include social and service programs and providing student leadership to important Honors College activities.
- **Upper Midwest Honors Council (UMHC):** UMHC is comprised of Honors Colleges and programs throughout the region. The Council holds an annual meeting each spring at a member-host university. South Dakota State University attends each year and engages students and faculty in sharing their classroom, research and program ideas and accomplishments with the Honors community across the region.
- **National Collegiate Honors Council (NCHC):** NCHC is the national organization for Honors programs and colleges across the country. The mission of NCHC is to support and enhance the community of educational institutions, professionals, and students who participate in collegiate Honors education around the world. The annual NCHC conference is attended by thousands of Honors students and faculty, including representatives from SDSU.
- **Leadership Development Programming:** The Honors College helps to coordinate the LeadState program, a leadership development program for college sophomores focused on strengths-based leadership, service, and the social change model for leadership development. In addition, Honors sponsors colloquia on leadership and summer leadership development and systems dynamics workshops. Honors students also serve as teaching assistants in undergraduate courses and help plan Honors events and programs.
- **Undergraduate Research, Scholarship and Creative Activity:** The Honors College helps to coordinate undergraduate research, scholarship and creative activity across campus. This includes organizing the annual Undergraduate Research, Scholarship and Creative Activity Day (URSCAD) each spring, as well as coordinating selection for campus-wide undergraduate research fellowships and the Schultz-Werth paper competition, both of which award students thousands of dollars each year.
- **Common Read and Griffith Honors Forum Lecture:** The Honors College coordinates SDSU's Campus/Community Common Read program. Recent selections include *Irresistible*, *Wrecked*, and *How Does it Feel to be a Problem*. Honors also organizes the university's largest lectureship, the Griffith Honors Forum Lecture, which in recent years has featured the author of the Common Read book or an associated speaker.
- **Honors College Convocation:** A celebration of all things Honors, Convocation is held during the spring of each academic year. The program includes a reception, speaker, and awards program honoring excellence in student and faculty service and achievement across a variety of categories. Students who have completed their Honors general education requirements are also recognized.
- **What's Next?:** This event series invites Honors students to explore various academic, career, or service opportunities as they begin to imagine their path after graduation.
- **Honors Literary Circle:** The Honors "lit circle" engages students and faculty in discussion around an important work of literature. The group gathers a few times throughout the semester for food, fellowship, and discussions of the chosen text.

## Programs

The Van D. and Barbara B. Fishback Honors College is a single administrative unit, which collaborates with other Deans, Department Heads, and Student Affairs offices across campus to serve its students and fulfill its mission. The College is guided through the collaborative leadership of the Dean and shared governance structures including the Honors Faculty Committee, Dean's Student Advisory Council, and Dean's Development Advisory Council.

### Distinction

- Honors College Distinction

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## Department of Aerospace Studies

Lt Col Jason Haufschild, Department Head
Department of Aerospace Studies / AFROTC
Box 2236 DePuy Military Hall, Room 100
605-688-6106

### Faculty

#### Professor

Jason Haufschild

#### Assistant Professors

Bethany Gross, Zackery Milder, Douglas Rolfes

### Overview

The Department of Aerospace Studies is dedicated to training college students for successful careers as officers in the United States Air Force and Space Force. The department is home of Air Force ROTC Detachment 780 at South Dakota State University. The detachment has a long history of providing leaders for the nation's Air Force. The AFROTC leadership development program is open to students in any major and is of long-range value whether one pursues a military or civilian career.

### Programs

#### Minors

- Aerospace Studies Minor

### Facilities & Services

The department's administrative offices are located in Room 100, DePuy Military Hall at SDSU's main campus in Brookings, South Dakota.

### Student Support & Engagement Opportunities

Air Force ROTC scholarships are available for qualified undergraduate students. These scholarships pay full tuition and fees at SDSU, $900 per year for textbooks, and a monthly stipend ranging from $300 to $500 per month. All non-scholarship students in the Professional Officer Course who are on contract with Air Force ROTC qualify for the monthly stipend ranging from $450 to $500. Non-scholarship students, in their last two years of AFROTC, who are South Dakota residents may qualify for up to 50% reduced tuition through a program sponsored by the South Dakota Board of Regents.

In addition to military and academic training, students have opportunities to travel, connect with veterans, and serve the local community.

- Flying Irish AFROTC Basketball Tournament - Annually the cadets will take a trip to The University of Notre Dame and compete in a basketball tournament with other ROTC detachments from across the country.
- Color Guard – Cadets have the opportunity to learn about proper flag etiquette and provide color guards for athletic events, commencement ceremonies, and several other events in the area.
- Veterans Vigil - Cadets guard the Brookings Veterans Memorial to honor America's military members on Veterans' Day.
- Professional Development - Opportunities at various bases and locations throughout the United States.
- Paid summer internships at locations such as Air Force Research Labs and Lawrence Livermore Labs.
- Project Go – Scholarships to study critical languages.

## Department of Agricultural & Biosystems Engineering

Van Kelley, Department Head
Department of Agricultural and Biosystems Engineering
Raven Precision Agriculture Center 136
605-688-5143

### Faculty

#### Distinguished Professor

K. Muthukumarappan

#### Professors

Gary Anderson, Zhengrong Gu, Todd Trooien

#### Associate Professors

Van Kelley, Lin Wei

#### Assistant Professors

John McMaine, Xufei Yang

#### Instructors

Douglas Prairie, Nicholas Uilk

#### Adjunct Professor

Jeppe Kjaersgaard

#### Emeritus

Michael Adelaine, Shu-Tung Chu, Darrell DeBoer, Mylo Hellickson, Stephen Pohl, Martin Schipull, Hal Werner

### Overview

The mission of the Department of Agricultural and Biosystems Engineering is to provide professional education at the undergraduate and graduate levels for engineers and technologists who will serve agricultural, biological, and environmental industries, conduct research and provide technological leadership in engineering design and management for the agricultural community and its affiliated industries.

The educational objectives for the Agricultural Systems Technology program are fulfilled as graduates develop successful careers in which they continue to grow in their professional skills, assume increasing professional responsibility, and show leadership in their careers, professional organizations, and communities.

### Programs

#### Majors

- Agricultural and Biosystems Engineering (B.S.) (Jerome J. Lohr College of Engineering)
- Agricultural Systems Technology (B.S.) (College of Agriculture, Food and Environmental Sciences)
- Precision Agriculture (B.S.) (College of Agriculture, Food and Environmental Sciences)

#### Minors

- Engineering for Precision Agriculture Minor
- Precision Agriculture Minor

#### Graduate Programs*

- Agricultural and Biosystems Engineering (M.S.)
- Agricultural, Biosystems and Mechanical Engineering (Ph.D.)
- Biological Sciences (Ph.D.) - Agricultural and Biosystems Engineering Specialization

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Facilities & Services

The department conducts research aimed at improving performance and reducing cost at all levels of production with minimal environment impact. Research is conducted in University labs and in the field, either at four Research and Extension Centers or on producer farms. Additionally, the South Dakota Water Resources Institute (SDWRI) is co-located with the Department of Agricultural and Biosystems Engineering in the Raven Precision Agriculture Center 136 on the South Dakota State University campus in Brookings, SD.

### Student Support & Engagement Opportunities

The department provides opportunities for student engagement and support through student clubs (such as the Quarter Scale Tractor Team and ABE/AST Club), scholarships, design projects, and internship coordination.

## Department of Agronomy, Horticulture, & Plant Science

David Wright, Department Head
Brent Turnipseed, Assistant Department Head
Hani Ghosheh, Undergraduate Teaching Coordinator
Senthil Subramanian, Graduate Teaching Coordinator
Department of Agronomy, Horticulture, and Plant Science
Raven Precision Agriculture Center 140
605-688-4600 (Department Head, SRPAC 140)
605-688-4450 (Teaching Office, SNP 247)

### Faculty

#### Distinguished Professors

David Clay, Sharon Clay, Anne Fennell, Douglas Malo, Leon Wrage

#### Professors

John Ball, Dwayne Beck, Bruce Bleakley, Arvid Boe, Rhoda Burrows, C. Gregg Carlson, Billy Fuller, Karl Glover, Jose Gonzalez-Hernandez, Xingyou Gu, Paul J.

Johnson, Wanlong Li, , Senthil Subramanian, Brent Turnipseed, David Wright, Jixiang Wu

### Associate Professors

Shaukat Ali, Emmanuel Byamukama, Melanie Caffe-Treml, Chris Graham, Sandeep Kumar, Febina Mathew, Thandiwe Nleya, Sunish Sehgal, Peter Sexton

### Assistant Professors

Jason Clark, Péter Kovács, Kristine Lang, Kristopher Osterloh, Adam Varenhorst, Sutie Xu

### Senior Lecturers

Jiyul Chang, Hani Ghosheh

### Lecturers

Navreet Mahal, Cheryl Reese

### Instructor

Brett Owens

### Emeritus

George Buchenau, C. Gregg Carlson, James Doolittle, C. Dean Dybing, James Gerwing, David F. Graper, Robert Hall, Marie Langham, Donald Kenefick, Douglas Malo, Vance Owens, Ronald Peterson, Robert Pollmann, Dale Reeves, Diane Rickerl, Thomas Schumacher, Clair Stymiest, Fedora Sutton, Leon Wrage, Howard Woodard

## Overview

The primary goal of the Department is to prepare students for success and leadership in business, government, and enterprises related to the Agronomy, Horticulture and Precision Agriculture programs. In addition, students can prepare for graduate study leading to a career in research, teaching, business, or extension. Graduates with training in plant sciences are sought by agri-business, horticultural businesses, private foundations, and federal and state agencies for employment in domestic and international agriculture.

The Agronomy, Horticulture, and Plant Science department is also proud of the strong tradition of research and extension, leading to improved plant varieties, increased agricultural productivity, better understanding of plant diseases, and new plant variety releases for producers. The extension activities have translated these advances into public knowledge on topics as varied as the impacts of tillage on soil carbon levels, and the genomic basis of grape quality.

## Programs

### Majors

- Agronomy (B.S.)
- Horticulture (B.S.)
- Precision Agriculture (B.S.)

### Minors

- Agronomy Minor
- Crop Protection Minor
- Horticulture Minor
- Precision Agriculture Minor
- Soil Health Management Minor
- Sustainable Local Foods Minor

### Certification Preparation

- Soil Science Certification

### Graduate Programs*

- Plant Science (M.S.)
- Biological Sciences (Ph.D.) - Plant Molecular Biology Specialization
- Biological Sciences (Ph.D.) - Plant Science Specialization
- Plant Science (Ph.D.)

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Facilities & Services

The department is housed in seven buildings across campus. These buildings provide research and teaching laboratories, greenhouses, seed house facilities and access to the functional genomics core facility. The on and off-campus facilities also include the SDSU Seed Testing Laboratory, SDSU Plant Diagnostics Clinic, Seed Certification, and Foundation Seed Stocks Division, which operates as services for the public. In addition, the department conducts research at four research farms near campus and four research stations across the state. The Field Specialists are housed in seven regional extension offices across the state.

## Student Support & Engagement Opportunities

Numerous opportunities are available for part-time employment, scholarships, and work-study programs. The Arboriculture Club, Agronomy and Conservation Club, and Horticulture and Urban Agriculture Club offer opportunities for fellowship, leadership, and career planning. The Department has nationally recognized crops, horticulture, and soils judging teams.

# Department of Allied & Population Health

Sharrel Pinto, Department Head
Department of Allied and Population Health
Avera Health and Science Center 147, Box 2202C
605-688-4329

## Faculty

### Professor

Sharrel Pinto

### Assistant Professors

Aaron Hunt, Erin Miller

### Instructors

Kassandra Erickson, Steph Jacobson, Stacie Lansink, April Nelson, Lacy Patnoe

### Clinical Instructors

Jill Olson, Abby Wortman

## Overview

The Department of Allied and Population Health offers a B.S. in Medical Laboratory Science degree program and an A.S. and B.S. in Respiratory Care. The Medical Laboratory Science degree contains two years of pre-MLS and 2 years of MLS coursework as either a fully face-to-face on campus program, an online program for practicing associate degree professionals (upward mobility program), and an accelerated program with a mix of online and on campus courses. The department also offers an undergraduate certificate in phlebotomy. At the graduate level, the department offers an online Master of Public Health (M.P.H.) degree and a graduate certificate in public health. In addition, the department teaches social and administrative pharmacy content for the B.S. in Pharmaceutical Sciences and Doctor of Pharmacy (Pharm.D.) programs. In addition to teaching, the department advances population health through research and innovations in community health and wellness services.

## Programs

### Majors

- Medical Laboratory Science (B.S.)
- Medical Laboratory Science (B.S.) - Accelerated Program
- Medical Laboratory Science (B.S.) - Upward Mobility Program
- Respiratory Care (A.S.)
- Respiratory Care (B.S.)

### Certificates

- Phlebotomy Certificate

### Graduate Programs*

- Public Health (M.P.H.)
- Public Health Certificate

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Facilities & Services

The main department office is located in the Avera Health and Science Center, but the department also has office space at the Community College for Sioux Falls. Offices for the Medical Laboratory Science and Master of Public Health programs are located in the Avera Health and Science Center. The respiratory care courses are offered at Avera McKennan and Sanford Hospitals in Sioux Falls or Monument Health in Rapid City. Courses in the pharmacy program are taught in Brookings and at Community College for Sioux Falls.

## Department of Animal Science

Joseph Cassady, Department Head
Department of Animal Science
Animal Science Complex 103A
605-688-5168

### Faculty

#### Distinguished Professor

Robert Thaler

#### Professors

Amanda Blair, Rebecca Bott, Joseph Cassady, Kristi Cammack, Jeffrey Clapper, Michael Gonda, Donald Marshall, Rosemarie Nold, Kenneth Olson, Julie Walker, Cody Wright

#### Associate Professors

Crystal Levesque, Keith Underwood

#### Assistant Professors

Jameson Brennan, Kelly Froehlich, Judson Grubbs, Hector Menendez, Ryan Samuel, Zachary Smith, Benoit St Pierre

#### Lecturer

Carmen Paulson

#### Instructor

Brady Jensen

#### Emeritus

Robert Gartner, Dan Gee, Jeffrey Held, James Johnson, George Libal, Douglas McFarland, Lowell Slyter, Richard Wahlstrom

### Overview

Tomorrow's animal industries leaders gain the educational foundation they need in the Department of Animal Science. These future leaders study under a dynamic faculty who not only teach but also set the pace with important research and aggressive outreach via Extension. Throughout the curriculum, a student-centered focus allows ample room for growth and success. With the multi-disciplinary approaches towards production efficiency and product enhancement, both undergraduate and graduate students gain strong skill sets. Graduates from the department find career options unfold in a diverse and growing range of employment areas.

### Programs

#### Majors

- Animal Science (B.S.) - Food Animal Health Specialization
- Animal Science (B.S.) - Industry Relations Specialization
- Animal Science (B.S.) - Production Management Specialization
- Animal Science (B.S.) - Science Specialization

#### Minors

- Animal Science Minor
- Equine Studies Minor
- Meat Science Minor
- Ranch Management Minor

#### Certificates

- Livestock and Animal Products Evaluation Certificate
- Swine Science Certificate

#### Graduate Programs*

- Animal Science (M.S.)
- Animal Science (Ph.D.)
- Animal Science Certificate

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Facilities & Services

Students gain hands-on experiences at several departmental facilities including the in-house Meat Science Lab and nearby Cow/Calf Education and Research Facility, Swine Education and Research Facility, Sheep Education and Research Facility, Ruminant Nutrition Center, and Equine Teaching Facility.

### Student Support & Engagement Opportunities

Several student clubs and organizations are affiliated with the Department of Animal Science, and Department faculty serve as club advisors and are supportive of all club functions and events. By being involved in these organizations, students have the opportunity to develop their leadership and communications skills with other students who have similar interests and concerns.

- Block and Bridle
- Little International
- Horse Club
- Swine Club
- Livestock Judging Team
- Meats Judging Team
- Wool Judging Team
- International Experience
- Undergraduate Research/Scholarship
- Rodeo Team and Rodeo Club

## Department of Architecture

Brian Rex, Department Head
Department of Architecture
Chicoine Architecture, Mathematics and Engineering Hall 378
605-688-4841

### Faculty

#### Associate Professors

Federico Garcia Lammers, Brian Rex

#### Assistant Professor

Jessica Garcia Fritz

#### Lecturers

Robert Arlt, Brian Lee

#### Instructors

Fang Xu

### Overview

The department (DoArch) provides a fully accredited professional education conceptually defined between two sets of studies--"Building Arts" and "Public Works". Professionalism is in the overlap of responsibility to build and civic responsibility for the built environment. Teaching and scholarship in DoArch is focused on the studio, the shop, the classroom, and regional communities. The undergraduate degree program begins with a unique design based liberal arts education and segues into an NAAB accredited training in architecture. The core mission of the DoArch is to prepare graduates for a broad range of careers advocating for socially responsible and civic profession; fostering collaboration and innovation in issues facing contemporary design practice; and building an academic dialog on a long-standing discipline rooted in material culture, place-making, and graphical inquiry.

### Programs

#### Majors

- Architecture (B.F.A.)

#### Graduate Programs *

- Architecture (M.Arch.)

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Department of Biology & Microbiology

Radhey Kaushik, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141

### Faculty

#### Professors

Bruce Bleakley, Volker Brözel, Charles Fenster, Radhey Kaushik, Wanlong Li, Madhav Nepal, Scott Pedersen, Xiuqing Wang, Yajun Wu, Yang Yen, Ruanbao Zhou

### Associate Professor

Mark Messerli

### Assistant Professors

Nicholas Butzin, Greg Heiberger, Anne-Marie Hoskinson, Bishnu Karki, Jaime Lopez-Mosqueda, Natalie Thiex

### Lecturers

Andrew Ellis, James Ladonski, Kristin Lenertz, Jessica Mediger, Mandy Orth, Marjoanne Thompson, Sam Smith, Randall Warren

### Instructors

Ashley McConnell, Nicholas Vroman

### Emeritus

Donald Evenson, Nels Granholm, Gary Peterson, Neil Reese

## Overview

The Biology and Microbiology department provides a vibrant environment in which students learn, discover and grow. Faculty are dedicated to offering learning environments that prepare students for productive successful careers, contributing to industry, healthcare and research. The department is equally dedicated to probing the fascinating intricacies of living systems in order to contribute to regional and national needs. Research teams collaborate in multi-disciplinary and multi-national teams to seek solutions for pressing problems in agriculture, health and energy.

## Programs

### Majors

- Biology (B.S.)
- Biology (B.S.) - Secondary Education Specialization
- Biotechnology (B.S.)
- Human Biology (B.S.)
- Microbiology (B.S.)

### Minors

- Biology Minor
- Microbiology Minor

### Pre-Professional Interest Areas

- Pre-Chiropractic
- Pre-Dental
- Pre-Medicine
- Pre-Mortuary
- Pre-Optometry
- Pre-Physician Assistant

### Graduate Programs*

- Biological Sciences (M.S.) - Biology Specialization
- Biological Sciences (M.S.) - Microbiology Specialization
- Biological Sciences (Ph.D.) - Biology Specialization
- Biological Sciences (Ph.D.) - Microbiology Specialization
- Biological Sciences (Ph.D.) - Molecular Biology Specialization
- Human Biology (M.S.)

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Facilities & Services

The Department of Biology and Microbiology and its faculty members are located in four buildings, Edgar S. McFadden Biostress Laboratory (SNP), Alfred Dairy Science Hall - main office (SDS), Berg Agricultural Hall (SAG), and Olson Research Laboratories (SAS) on the SDSU campus. The Functional Genomics Core Facility and the Animal Resource Wing facilities and equipment are available to support research activities in the areas of abiotic and biotic stresses to plants, infectious diseases, microbiology, and bioproducts.

## Student Support & Engagement Opportunities

The department provides a rich selection of experiences for students, from the undergraduate research in over 20 laboratories, to international travel experiences, and internships in healthcare and industry. Students may also participate in numerous clubs and organizations related to their academic programs.

- Microbiology Club
- National Science Teachers Association
- Pre-Medical Chapter of the American Medical Student Association
- Pre-Professional Science Club
- Student National Education Association

# Department of Chemistry & Biochemistry

Douglas Raynie, Department Head
Department of Chemistry and Biochemistry
Avera Health and Science Center 247
605-688-5151

## Faculty

### Professors

Jihong Cole-Dai, Fathi Halaweish, Adam Hoppe, Brian Logue, Matthew Miller

### Associate Professors

Suvobrata Chakravarty, Douglas Raynie, Jay Shore, Cheng Zhang

### Assistant Professors

Darci Fink, Rachel Willand-Charnley

### Senior Lecturers

Nicole Grove, Melody Jewell, Sara Madsen

### Lecturer

Julie Leibold

### Emeritus

Royce Emerick, Henry Gehrke, John Grove, Harry Hecht, William Jensen, Ivan Palmer, James Rice, Leo Spinar, William Wadsworth

## Overview

The mission of the Department of Chemistry and Biochemistry is to educate, expand the frontiers of knowledge, and provide service. The Department provides high-quality educational opportunities that address students' needs and broaden their perspectives, enabling them to continue the learning process as educated citizens. For those students desiring to pursue careers in chemistry, biochemistry, chemical education, and related scientific areas, the department provides degree programs at the baccalaureate, masters, and doctoral levels. The Department also maintains strong research efforts in areas appropriate to the broad goals and objectives of a land-grant institution. The Department provides service to its various constituencies through selected programs that are continually refined to meet changing needs.

Further, the SDSU Department of Chemistry and Biochemistry is a founding signatory to the Green Chemistry Commitment. Specific examples of green chemistry are presented in general chemistry, organic chemistry laboratory experiments, a chemical toxicology course, and graduate and undergraduate research.

## Departmental Objectives

- To address the needs of a scientifically literate citizenry in South Dakota, the upper midwest, nationally, and globally;
- To facilitate students' communication skills in both oral and written formats;
- To encourage the technological literacy of students such that they become highly competitive in the global workforce;
- To provide opportunities for professional development of students at the baccalaureate, masters, and doctoral levels;
- To provide premier leadership in the chemical sciences dedicated to excellence in learning, discovery, and outreach.

## Programs

### Majors

- Biochemistry (B.S.)
- Chemistry (B.S.)
- Chemistry Education (B.S.)

### Minors

- Chemistry Minor

### Graduate Programs*

- Chemistry (M.S.)
- Chemistry (M.S.) - Chemical Education Specialization
- Biochemistry (Ph.D.)
- Chemistry (Ph.D.)

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Student Support & Engagement Opportunities

The Department offers opportunities for student engagement through research and student organizations. For additional information refer to the Research Opportunities page and the Student Organization page on the University's webpage.

## Department of Civil & Environmental Engineering

Nadim Wehbe, Department Head
Department of Civil and Environmental Engineering
Crothers Engineering Hall 120
605-688-5427

### Faculty

#### Professors

Bruce Berdanier, Suzette Burckhard, Christopher Schmit, Francis Ting, Nadim Wehbe

#### Associate Professors

Guanghui Hua, Mostafa Tazarv, Junwon Seo

#### Assistant Professors

Aritra Banerjee, Rouzbeh Ghabchi, Michael Pawlovich

#### Lecturers

Zachary Gutzmer, Kyungnan Min

#### Emeritus

Delvin DeBoer, M. Nadim Hassoun, Allen Jones, Richard Reid, Dwayne Rollag, Ali Selim, Arden Sigl, Charles Tiltrum

### Overview

Civil Engineering includes design, construction, and operation and maintenance of highways, airports, buildings, bridges, dams, water supply and distribution systems, waste water collection systems and treatment plants, irrigation and drainage systems, river and harbor improvements and many other infrastructure facilities essential in modern life. Civil Engineers are custodians of the built environment and are responsible for all aspects of the world's infrastructure. The Civil and Environmental Engineering Department's mission is to provide a highly respected, rigorous, practical education for our students, oriented toward problem solving through the integration of education, research and lifelong learning. In fulfillment of this mission the Department has established program educational objectives that describe the expected accomplishments of our graduates after graduation.

### Programs

#### Majors

- Civil Engineering (B.S.)

#### Graduate Programs*

- Civil Engineering (M.S.)
- Civil Engineering (Ph.D.)

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Facilities & Services

The Civil and Environmental Engineering department is housed in Crothers Engineering Hall and maintains over 18,000 square feet of classroom and laboratory space dedicated to undergraduate instruction and research experience, as well as testing laboratories for research and sponsored projects. This includes the Lohr Structures Lab, Fluid Mechanics Lab, HDR Environmental Lab, Geotechnical Lab, Asphalt Materials Lab, Materials and Concrete Lab, Transportation Lab, Capstone Design Studio and Student Computer Lab.

### Student Support & Engagement Opportunities

The program strives to assist students in developing a commitment to high standards of professional conduct by maintaining a strong, active American Society of Civil Engineers Student Chapter Program, promoting summer, cooperative education, and internship employment experiences in civil engineering.

## Department of Construction & Operations Management

Suzette Burckhard, Interim Department Head
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417

### Faculty

#### Professor

Huitian Lu

#### Professor of Practice

Gary Hemphill

#### Associate Professors

Ekaterina Koromyslova, Byron Garry

#### Associate Professor of Practice

Tim Hostettler

#### Senior Lecturers

Norma Nusz, Carrie Steinlicht, Albena Yordanova

#### Lecturers

Janet Merriman, Robert Miller

#### Instructor

Jason Prout

#### Emeritus

Teresa Keys Hall

### Overview

The Department of Construction and Operations Management offers applied management and engineering technology programs designed to prepare graduates for technical and management careers. The department's mission is to provide high quality, relevant, and contemporary learning experiences for students; to enhance the economic vitality of the region through outreach, research and service initiatives for industrial constituents; and to promote the department's disciplines through these outreach ventures and scholarly activity.

In addition to the academic programs detailed below, the department also delivers the non-degree General Engineering (GE) program for the College of Engineering. The General Engineering program provides a temporary department for first year students who are undecided in their choice of degree program.

### Programs

#### Majors

- Concrete Industry Management (B.S.)
- Construction Management (B.S.)
- Construction Technology (A.S.)
- Electronics Engineering Technology (B.S.)
- Engineering Technology (A.S.)
- Operations Management (B.S.)

#### Minors

- Construction Minor
- Engineering Management Minor
- Heavy-Highway Construction Minor
- Mechatronics Technology Minor

#### Certificates

- Engineering Graphics Certificate
- Pre-Construction Planning Certificate

#### Graduate Programs*

- Master of Engineering (M.Eng.)
- Operations Management (M.S.)
- Management Foundations Certificate
- Systems Management Certificate

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Facilities & Services

The department is located in historic Solberg Hall, where Stephen Briggs built his prototype for what would become the Briggs and Stratton engine. Solberg Hall

was constructed in 1901 and has been fully renovated with state of the art classrooms, active learning labs, and faculty offices. The Construction Management program has a dedicated computer lab offering students access to estimating, scheduling, and project management software. The Operations Management and Concrete Industry Management programs share a dedicated computer lab. Operations Management also has simulation labs. The Electronics Engineering Technology program has three well-equipped electronics labs, two with 12 workstations. Our production lab is located in the adjacent Architecture, Mathematics and Engineering building. The department shares the production lab with the Mechanical Engineering and Architecture programs which provide cross-disciplinary fabrication project opportunities.

### Student Support & Engagement Opportunities

The department supports two professional honor society chapters to provide recognition for outstanding student leaders. The SDSU chapter of Sigma Lambda Chi is the international honor society for students in construction management. Undergraduate and graduate students in the department are also eligible for nomination to Epsilon Mu Eta, the national honor society for engineering management. Students in all our undergraduate programs are given the opportunity to grow their potential as future leaders via service learning, community engagement, and discipline-specific outreach projects. The department has long standing relationships with the South Dakota Associated General Contractors (AGC) Building and Heavy-Highway-Utilities chapters, the Sioux Falls and Brookings chapters of the National Association of Home Builders (NAHB), and the Brookings Area Lean Consortium.

## Department of Dairy & Food Science

Joseph Cassady, Interim Department Head
Department of Dairy and Food Science
Alfred Dairy Science Hall 136
605-688-4116

### Faculty

#### Professors

Sanjeev Anand, Clifford Hall, Padmanaban Krishnan, Vikram Mistry

#### Assistant Professors

Srinivas Janaswamy, Johan Osorio, Maristela Rovai

#### Lecturer

Howard Bonnemann

#### Emeritus

Robert Baer, David R. Henning, John Parsons, David Schingoethe

### Overview

The mission of the Dairy and Food Science Department is to help create a prosperous future for the dairy and food industry of South Dakota, the region, nation, and world. With expertise in Dairy Production, Dairy Manufacturing, and Food Science the department covers the entire spectrum of the dairy industry; from farm to product, as well as foods in general. Faculty members are well recognized in their areas of expertise in research and are excellent instructors. The recently remodeled facilities offer both undergraduate students as well as graduate students opportunities for training on state-of-the art technologies.

### Programs

#### Majors

- Dairy Production (B.S.)
- Dairy Manufacturing (B.S.)
- Dairy Manufacturing (B.S.) - Microbiology Specialization
- Food Science (B.S.)

#### Minors

- Dairy Industry Minor
- Food Safety Minor

#### Graduate Programs*

- Biological Sciences (M.S.) - Dairy Science Specialization
- Biological Sciences (M.S.) - Food Science Specialization
- Biological Sciences (Ph.D.) - Dairy Science Specialization
- Biological Sciences (Ph.D.) - Food Science Specialization

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Facilities & Services

The department is located in Alfred Dairy Science Hall. The Dairy Research and Training Facility (DRTF) of the Dairy and Food Science Department houses 300 Holstein and Brown Swiss cattle and is a research center in feeding, breeding, and managing a dairy herd. Equally important, it is the site for basic education in dairy cattle evaluation and other aspects of dairy farming. Milk produced at the DRTF is delivered to the Davis Dairy Plant where it is processed into fluid milk, ice cream, butter, cheese, and other dairy products. These products are sold through the Dairy Sales Bar and used in campus dining facilities. Food Science labs are located in Berg Agricultural Hall.

### Student Support & Engagement Opportunities

Students are encouraged to supplement their class instruction with summer internships, employment at the Davis Dairy Plant, the Dairy Research and Training Facility, and extracurricular activities. Leadership opportunities are available through participation in the Dairy Club, Food Science Club, Dairy Cattle Judging, Intercollegiate Dairy Challenge, Dairy Products Evaluation Teams, American Dairy Science Association and Institute of Food Technologists. The Department has strong research programs in Dairy Production, Dairy Manufacturing, and Food Science. It is an active member of the Midwest Dairy Foods Research Center. Research opportunities for undergraduate students are also available.

## Department of Electrical Engineering & Computer Science

Siddharth Suryanarayanan, Department Head
Department of Electrical Engineering and Computer Science
Daktronics Engineering Hall 214
605-688-4526

### Faculty

#### Professors

Steven Hietpas, Rajesh Kavasseri, Sung Shin, Siddharth Suryanarayanan

#### Associate Professors

Robert Fourney, George Hamer, Timothy Hansen, Songxin Tan, Reinaldo Tonkoski

#### Assistant Professors

Kaiqun Fu, Kwanghee Won, Xiaojun Xian, Yue Zhou

#### Lecturers

Kenneth Gamradt, Paula Kurtenbach

#### Instructors

Jerry Cooley, Paul Weist

#### Emeritus

Madeleine Andrawis, Lewis Brown, Virgil Ellerbruch, David Galipeau, Dennis Helder, Alireza Salehnia, Duane Sander

### Overview

The Electrical Engineering and Computer Science Department combines all aspects of electricity, electronics, hardware, and software into one multi-disciplinary unit. The department has well-established, nationally and internationally-known research programs in materials, image processing and power and energy systems.

### Programs

#### Majors

- Computer Science (B.S.)
- Electrical Engineering (B.S.)

#### Minors

- Computer Engineering Minor
- Computer Science Minor
- Informatics Minor
- Software Engineering Minor

#### Graduate Programs*

- Computer Science (M.S.)
- Computer Science (Ph.D.)
- Electrical Engineering (M.S.)
- Electrical Engineering (Ph.D.)

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Facilities & Services

The department is housed in a 45,000 sq. ft. state-of-the-art engineering facility, with over 15,000 sq. ft. in laboratory space. Students enjoy 24-hour security-card access to undergraduate and research labs, student organization rooms, computer resource labs, robotics club room, and specialized student study areas.

## Student Support & Engagement Opportunities

The department offers opportunities for student engagement through research and student organizations. Many outstanding professional activities are available through the student chapters of The Institute of Electrical and Electronics Engineers, Association for Computing Machinery, the Society of Women Engineers, and an active Robotics Club. Student honors groups include the Upsilon Pi Epsilon for computer science majors and the IEEE - Eta Kappa Nu for electrical engineering majors.

# Department of English & Interdisciplinary Studies

Jason McEntee, Department Head
Department of English and Interdisciplinary Studies
Pugsley Hall 301, Box 2218
605-688-5191

## Faculty

### Professors

Jason McEntee, Christine Stewart

### Associate Professors

Paul Baggett, Nicole Flynn, Katherine Malone, Michael Nagy, Sharon Smith, Steven Wingate

### Lecturers

Randi Anderson, Darin Halvorsen, Lynn Hublou, Amber Jensen, Jennifer Kluck, Lisa Madsen, April Myrick, Nathan Serfling

### Instructors

Gwen Horsley, Katie O'Leary, Stephen Snyder

### Emeritus

Bruce Brandt, Kathleen Danker, Kathleen Donovan, David Allen Evans, Mary Alice Haug, Michael Keller, Karen Kildahl, Mary O'Connor, Mary Ryder, John Taylor, Paul Witherington, George West, Charles Woodard

## Overview

The English and Interdisciplinary Studies department's B.A. program prepares students to become innovative professionals and global citizens by teaching them to read closely and critically, write creatively and persuasively, and explore the beauty and value of diverse literatures and cultures.

The Department offers instruction in a wide range of specialty areas, including British and American literature, women's writing, Native American literature, literary theory, rhetoric, composition, creative writing, professional and technical writing, peace and conflict studies, and film studies.

## Programs

### Majors

- English (B.A.)
- English (B.A.) - English Education Specialization
- English (B.A.) - Writing Specialization
- Interdisciplinary Studies (B.A./B.S.)

### Minors

- English Minor
- Professional Writing Minor

### Graduate Programs*

- English (M.A.)

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Facilities & Services

The Department of English and Interdisciplinary Studies is housed in historic Pugsley Hall (as of Spring 2014). The department supports local, regional, and state communities through speaking and teaching engagements, service learning, and events such as the annual Consider the Century Conference, the Great Plains Writers' Conference, and the Oakwood Writers Retreat. In addition, the English and Interdisciplinary Studies department coordinates the Jerome Norgren Poetry Contest and the Paul Witherington Creative Writing Contest for South Dakota middle-school and high-school students and directs the SDSU Writing Center, which offers writing support to SDSU undergraduate and graduate students.

## Student Support & Engagement Opportunities

The English and Interdisciplinary Studies department publishes *Oakwood*, an annual literary magazine created and developed by English students; sponsors English Club, the university's only undergraduate literary association; and awards a number of scholarships to its majors thanks to the generosity of its alumni and friends.

# Department of Geography & Geospatial Sciences

Bob Watrel, Department Head
Department of Geography and Geospatial Sciences
109 Wecota Hall
605-688-4511

## Faculty

### Professors

George White, Xiaoyang Zhang

### Associate Professor

Bob Watrel

### Assistant Professors

Danielle Haskett Jennings, Dapeng Li, Bruce Millett, Hankui Zhang

### Instructors

Kimberly Johnson Maier

### Emeritus

Don Berg, Charles F. Gritzner, Janet Gritzner, Edward Hogan, Darrell Napton, Roger Sandness

## Overview

The Department of Geography and Geospatial Sciences offers enriching academic and life experiences, connecting people to the world in which they live. The department offers programs addressing the complex relationships and linkages of human and natural systems; geography is the science of place. As such, students study and analyze pressing issues ranging from climate change, human modification of the Earth's systems, environmental hazards, resource assessment, and land use to population distributions, urbanization, cultural adaption, political organization of space, and globalization. Students gain experience with geospatial techniques including cartography, remote sensing, Global Positioning Systems and Geographic Information Systems. These are recognized increasingly as essential for solving many contemporary societal questions. This also makes graduates from the department marketable in numerous business and governmental careers, as well as graduate schools for those seeking advanced degrees.

## Programs

### Majors

- Community and Regional Planning (B.S.)
- Geographic Information Sciences (B.S.)
- Geography (B.A./B.S.)

### Minors

- Geographic Information Sciences Minor
- Geography Minor
- Sustainability Minor

### Certificates

- Geographic Information Sciences Certificate
- Unmanned Aircraft Systems Certificate

### Graduate Programs*

- Geography (M.S.)
- Geography (M.S.) - Geographic Information Sciences Specialization
- Geospatial Science and Engineering (Ph.D.) - Geography Specialization
- Geospatial Science and Engineering (Ph.D.) - Remote Sensing Specialization

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Facilities & Services

The Geography and Geospatial Sciences department is located in Wecota Hall. The department produces its own annual Geography Convention, the longest running such event in the United States.

## Student Support & Engagement Opportunities

The department provides numerous opportunities for student engagement. For example, the Geography Club is a student organization centered on both academic and social functions. Membership is open to anyone interested. Additionally, the South Dakota State Geography Convention is student organized and sponsored.

Students and faculty regularly travel including attendance at regional and national geography meetings, as well as travel to other parts of the world in pursuit of their individual scholarly interests.

## Department of Graduate Nursing

Heidi Mennenga, Interim Associate Dean for Academic Programs
Department of Graduate Nursing
Wagner Hall 255, Box 2275
605-688-5178 or 1-888-216-9806 Ext. 2

### Faculty

#### Professors

Lori Hendrickx, Mary Anne Krogh

#### Associate Professors

Cynthia Elverson, Mary Isaacson, Heidi Mennenga, Thomas Stenvig, Jo Voss

#### Assistant Professors

Alham Abuatiq, Robin Brown, Karin Emery, Sarah Mollman, Danielle Schievelbein, Brandon Varilek

#### Clinical Associate Professor

Robin Arends

#### Clinical Assistant Professors

Danicca Callies, Theresa Garren-Grubbs, Jack Mayeux, Christina Plemmons, Brandi Pravecek

#### Emeritus

Paula Carson, Gloria Craig, Kay Foland, Margaret Hegge, Barbara Hobbs, Sharon Hofland, Martha Iken, Coral Joffer, MaryLou Mylant, Roberta Olson, Lois Tschetter

### Overview

Graduate nursing education is crucial for role preparation in advanced practice, nursing education, nursing administration, nursing leadership, and research. Collectively, these roles meet the growing needs of the healthcare and academic settings. The Department of Graduate Nursing offers a variety of degrees, specializations, and curriculum plans.

Students can earn a Master's of Science (M.S.) degree in five specializations: Family Nurse Practitioner, Nurse Educator, Nurse Administrator, Clinical Nurse Leader, and Psychiatric Mental Health Nurse Practitioner.

For students with a previous Master's degree, four post-graduate certificate options are available: Clinical Nurse Leader, Family Nurse Practitioner, Nurse Educator, and Psychiatric Mental Health Nurse Practitioner.

Graduate options continue in the doctoral programs. The Doctor of Nursing Practice degree will prepare Advanced Practice Registered Nurses to bring a transformative level of care and leadership to primary care settings in rural and underserved communities. Students can earn a Doctor of Nursing Practice (D.N.P.) with the specialty area of a Family Nurse Practitioner or Psychiatric Mental Health Nurse Practitioner. Students may enter these programs with either a Bachelor's or a Master's degree in nursing.

Established in 2005, the Doctor of Philosophy in Nursing prepares nurse scientists to assume roles as healthcare researchers, faculty, and healthcare administrators with an emphasis on health promotion and disease prevention in underserved and rural populations. The Ph.D. program educates nurse scientists in academic, research, practice, and policy roles to address healthcare issues in urban, rural, frontier, and reservation areas.

### Programs

#### Master's Degrees*

- Nursing (M.S.) - Clinical Nurse Leader Specialization
- Nursing (M.S.) - Family Nurse Practitioner Specialization
- Nursing (M.S.) - Nurse Administrator Specialization
- Nursing (M.S.) - Nurse Educator Specialization
- Nursing (M.S.) - Psychiatric Mental Health Nurse Practitioner Specialization

#### Doctoral Degrees*

- Nursing (Ph.D.)

#### Professional Doctoral Degrees*

- Nursing (D.N.P.)
- Nursing (D.N.P.) - Family Nurse Practitioner Specialization
- Nursing (D.N.P.) - Psychiatric Mental Health Nurse Practitioner Specialization

#### Certificates*

- Post-Graduate Clinical Nurse Leader Certificate
- Post-Graduate Family Nurse Practitioner Certificate
- Post-Graduate Nurse Educator Certificate
- Post-Graduate Psychiatric Mental Health Nurse Practitioner Certificate

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Accreditation

The baccalaureate degree in nursing, master's degree in nursing, Doctor of Nursing Practice and APRN certificate programs at South Dakota State University are accredited by the Commission on Collegiate Nursing Education.

### Facilities & Services

The College of Nursing has state of the art Simulation Labs that enables educators to enhance the quality and delivery of rural nursing education. Simulation provides an opportunity for nursing students to practice nursing care with a variety of patients and patient scenarios. The high-technology simulation setting allows students practice in the areas of electronic health records, informatics, and tele-health.

## Department of Mathematics & Statistics

Kurt Cogswell, Department Head
Department of Mathematics and Statistics
Chicoine Architecture, Mathematics and Engineering Hall 209
605-688-6196

### Faculty

#### Professors

Ross Abraham, Kurt Cogswell, Donna Flint, Xijin Ge, Christine Larson, Christopher Saunders, Daniel Schaal

#### Associate Professors

Matthew Biesecker, Thomas Brandenburger, Gemechis Djira, Jung-Han Kimn, Gary Hatfield, Semhar Michael, Donald Vestal, Sharon Vestal, Jixiang Wu

#### Assistant Professors

John Jasper, Hossein Moradi Rekabdarkolaee

#### Lecturers

Rebecca Diischer, Carrie Easley, Rong Fan, Nathan McClanahan, Erin Ulvestad

#### Instructors

Wendy Ahrendsen, William Alsaker, Alvin Bahr, Joseph Christensen, Kelly Huls, Charles Huth, Young-Hee Ji, Deborah Leiferman

#### Emeritus

Clara Ayers, Charles Clever, Daniel Kemp, Robert Lacher, Maurice Monahan, Howard Nielsen, Kenneth Yocom

### Overview

The SDSU Department of Mathematics and Statistics is a large, diverse, and active organization. The department's mission is to provide a rich, inclusive environment which fosters excellent student centered instruction and engagement in high-quality research and scholarly activity. The department prepares graduates and provides mathematical and statistical services that improve the quality of life in South Dakota, the region, the nation, and the world. The curriculum includes a broad range of challenging and highly applicable undergraduate courses, allowing students to specialize in Data Science, Applied Mathematics, Financial and Actuarial Mathematics, or, Mathematics Education. The consistent high placement rate of graduates into K12 and university teaching positions, financial institutions, health services, businesses, manufacturing firms, research organizations, and graduate programs speaks directly to the department's success in preparing graduates for a wide variety of outstanding careers.

## Programs

### Majors

- Data Science (A.S.)
- Data Science (B.S.)
- Mathematics (B.S.)
- Mathematics (B.S.) - Data Science Specialization
- Mathematics (B.S.) - Teaching Specialization

### Minors

- Data Science Minor
- Mathematics Minor
- Statistics Minor

### Graduate Programs*

- Data Science (M.S.)
- Mathematics (M.S.)
- Mathematics (M.S.) - Statistics Specialization
- Statistics (M.S.)
- Computational Science and Statistics (Ph.D.) - Data Science Specialization
- Computational Science and Statistics (Ph.D.) - Mathematics Specialization
- Computational Science and Statistics (Ph.D.) - Statistics Specialization
- Advanced Graduate Mathematics Certificate
- Data Science Certificate
- Graduate Mathematics Certificate

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Facilities & Services

The department offices are located in the Chicoine Architecture, Mathematics and Engineering Hall (AME), room 209. The Math Help Center, located in AME 292, provides free walk-in tutoring for students in MATH 101, MATH 103, MATH 114, MATH 115, MATH 120, MATH 121-121L, MATH 123, MATH 125, and STAT 281.

## Student Support & Engagement Opportunities

Math majors can engage in research through the summer Research Experiences for Undergraduates. Students can also participate in the three student organizations, Math Club, Data Science Club, and the student chapter of the National Council of Teachers of Mathematics, that combine fun with professional development opportunities. Students meeting certain GPA requirements are also eligible to become members of the Gamma chapter of Pi Mu Epsilon, the honor society for Mathematics.

# Department of Mechanical Engineering

Yucheng Liu, Department Head
Department of Mechanical Engineering
Crothers Engineering Hall 221
605-688-5426

## Faculty

### Professors

Stephen Gent, Zhong Hu, Yucheng Liu

### Associate Professors

Jeffrey Doom, Todd Letcher, Gregory Michna

### Assistant Professors

Saikat Basu, Marco Ciarcià, Kim-Doang Nguyen, Anamika Prasad

### Senior Lecturer

Michael Twedt

### Lecturer

John Versteeg

### Instructors

Zachary Chapman, Sarah Michna, Shazali Osman, Douglas Peters

### Emeritus

Kurt Bassett, Fereidoon Delfanian, Don Froehlich, Alexandros Moutsoglou

## Overview

The Department of Mechanical Engineering offers programs of study leading to the Bachelor of Science (B.S.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.) degrees in Mechanical Engineering, as well as minors in Biomedical Engineering and Sustainable Energy Systems.. The department is focused on developing students' problem-solving talents, built upon a solid understanding of the scientific and mathematical principles that guide engineers. The faculty members are dedicated to providing a challenging and effective learning environment. They continue to build upon their considerable expertise through engineering research and practice.

Throughout the curriculum, classroom theory is extended and applied with learning activities in well-equipped laboratories. Team-oriented design courses prepare students to apply engineering principles to the solution of real-world problems. Most students participate in at least one internship or cooperative work experience during a summer or semester away from campus. Opportunities are also available for students to participate in research projects guided by faculty members working with state-of-the-art engineering equipment.

## Department Mission

The mission of the Department of Mechanical Engineering is to provide a highly respected, rigorous, professional education for Mechanical Engineering students; to conduct consequential research; and to provide technical assistance to our constituents.

## Programs

### Majors

- Mechanical Engineering (B.S.)
- Mechanical Engineering (B.S.) - Aerospace Engineering Specialization

### Minors

- Aerospace Engineering Minor
- Biomedical Engineering Minor
- Sustainable Energy Systems Minor

### Graduate Programs*

- Mechanical Engineering (M.S.)
- Mechanical Engineering (Ph.D.)

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Facilities & Services

In addition to the instructional laboratories, the department houses the following research laboratories:

- Aerospace Robotics Testbed Laboratory
- Bio-Materials Laboratory
- Dynamics and Control Laboratory
- Heat Transfer Laboratory
- Materials Evaluation and Testing Laboratory
- Simulation-Based Engineering and Analysis Laboratory
- Lab for Engineering of Additive Designs; Education and Research

## Student Support & Engagement Opportunities

The department provides opportunities for student engagement through engineering design projects, participation in research, and participation in student organizations. The following student branches of professional societies are active in the department:

- American Society of Mechanical Engineers
- American Society of Heating, Refrigerating and Air-Conditioning Engineers
- Society of Automotive Engineers
- Pi Tau Sigma (Mechanical Engineering Honor Society)
- Biomedical Engineering Society

In addition, mechanical engineering students are active in the following engineering organizations:

- Cube-Sat Club
- Robotics Club
- Society of Women Engineers
- Engineers For World Improvement
- Tau Beta Pi (Engineering Honor Society)
- Alpha Omega Epsilon (Engineering Sorority)
- Sigma Phi Delta (Engineering Fraternity)

## Department of Military Science

LTC Jason W. Kettwig, Department Head
Department of Military Science
DePuy Military Hall 200, Box 2236
605-688-6151

### Faculty

#### Adjunct Professor

Jason Kettwig

#### Adjunct Assistant Professor

Matthew Spencer

### Overview

The Department of Military Science, Army Reserve Officers' Training Corps (ROTC), develops critical skills in management, leadership and analytical decision-making that are valuable to any civilian or military career. Classroom instruction, hands-on training and field training encompass the values and skill sets necessary for success. Opportunities abound for specialized training.

### Department Objective

The Department of Military Science has a mission to train students of any major to be leaders in the US Army. SDSU Army ROTC has a long and proud tradition of commissioning nearly 3000 outstanding officers for the Active Army, the Army National Guard, and the United States Army Reserve since their inception in 1884.

### Program

#### Minors

- Military Science Minor

### Training Programs

The Department has three on-campus training programs:

- the four-year program consisting of the basic course for freshmen and sophomores, followed by the advanced course for juniors and seniors.
- a three-year program where the basic course is compressed into the sophomore year followed by the advanced course.
- a two-year program.

The first entry point is where placement credit is allowed for the basic course to qualified veterans and members of the Army National Guard and the Army Reserve. A second entry point is available to students who desire to be paid for the equivalent of the basic course by attending the ROTC Basic Course in the summer prior to their junior year.

By enrolling in the basic course or its equivalent substitute, students do not make any commitment to the U.S. Army unless they are scholarship recipients. Tuition is not charged for ROTC courses. ROTC textbooks, uniforms, and other essential materials are furnished to the Basic Course student at no cost. Fifty percent tuition credit for Advanced Course non-scholarship cadets is available. To be eligible for commissioning, cadets must complete a course in Military History and pass water survival training. Contact the Department for requirements.

### Army ROTC Scholarships

Qualified students can compete for 4-year, 3-year, and 2-year scholarships that cover full tuition, laboratory and instructional fees, university student fees, transcript, cap and gown, diploma, and selected graduation fees or $5,000 per semester per semester. A book stipend of $600 a semester plus a monthly subsistence allowance of $420 a month are provided each semester in Army ROTC. Four Year National High School Scholarship process is conducted by the Department of the Army for university bound high school students. Applications are available from high school counselors, online at www.armyrotc.com. Contact the SDSU Army ROTC for more information.

### Student Support & Engagement Opportunities

The Department of Military Science provides students the opportunity to explore a wide variety of training options. The Department offers participation in the Cateau Ranger Club and Drill Team as well as a Ranger Challenge Team. Training for qualified individuals include Airborne, Air Assault, Cadet Troop Leader Training, Nurses Summer Training, Cultural Understanding and Language Proficiency and professional Internships for specific majors. The Cateau Ranger Club specializes in small unit tactical training. The Drill Team's focus is drill and ceremony and performing color guard duties on campus and in the community. The Ranger Challenge Team is an elite group of students that train for competition in marksmanship, orienteering, weapons assembly, a ruck march and physical fitness testing. Training, competition, and performance all sharpens skill sets and prepare the Cadets for the future.

## Department of Natural Resource Management

Michele Dudash, Department Head
Department of Natural Resource Management
Edgar S. McFadden Biostress Laboratory 138
605-688-6121

### Faculty

#### Professors

Michele Dudash, Alexander (Sandy) Smart, Lan Xu

#### Associate Professors

Kent C. Jensen, A. Joshua Leffler, Lora Perkins

#### Assistant Professors

Christopher Cheek, Alison Coulter, Krista Ehlert, Maribeth Latvis, Jennifer Zavaleta Cheek

#### Instructors

Bruce Eichhorst, Don McCrea

#### Adjunct Associate Professors

Brian Graeb

#### Emeritus

Charles Berry, Jr., Michael Brown, Charles Dieter, Lester D. Flake, Kenneth Higgins, Jonathan Jenks, Carter Johnson, Patricia S. Johnson, Carol Johnston, Gary Larson, Nels H. Troelstrup, Jr.

### Overview

The Department of Natural Resource Management provides undergraduate and graduate programs focused on improving the understanding and management of natural resources. The quality of life for many humans is intimately tied to the use and conservation of natural resources. Thus, educational opportunities in natural resource management at SDSU can lead to a diverse array of career opportunities. Departmental faculty and staff conduct research and provide outreach services that contribute to the understanding and management of natural resources on local to global scales.

### Programs

#### Majors

- Conservation Planning and Park Management (B.S.)
- Conservation Planning and Park Management (B.S.) - Park Administration and Management Specialization
- Ecology and Environmental Science (B.S.)
- Ecology and Environmental Science (B.S.) - Rangeland Ecology and Management Specialization
- Natural Resource Law Enforcement (B.S.)
- Wildlife and Fisheries Sciences (B.S.)

#### Minors

- Botany Minor
- Rangeland Ecology and Management Minor

#### Graduate Programs*

- Biological Sciences (M.S.) - Natural Resource Management Specialization
- Wildlife and Fisheries Sciences (M.S.) - Fisheries Sciences Specialization
- Wildlife and Fisheries Sciences (M.S.) - Wildlife Sciences Specialization
- Biological Sciences (Ph.D.) - Natural Resource Management Specialization
- Wildlife and Fisheries Sciences (Ph.D.)

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Facilities & Services

The department is housed within the Edgar S. McFadden Biostress Laboratory at SDSU. The Cottonwood Station, Oak Lake Field Station, and Wildlife Research Unit provide off-campus teaching and research facilities. The South Dakota Cooperative Fish and Wildlife Research Unit is located within the department.

### Student Support & Engagement Opportunities

Student organizations conduct professional and social functions, serve as an excellent vehicle for students to get to know one another and the faculty, and to learn more about their future profession.

The Department of Natural Resource Management student clubs include:

- SDSU American Fisheries Society Student Subunit and the SDSU Wildlife and Fisheries Conservation Club (a student chapter of The Wildlife Society) are excellent organizations open to students in that major.
- SDSU Botany Club is a student chapter of the Botanical Society of America.
- The SDSU Ecology Club is a student chapter of the Ecological Society of America.
- SDSU Natural Resource Law Enforcement Student Club.
- SDSU Range Club - the South Dakota Student Chapter of the Society for Range Management includes Rangeland Ecology and Management majors and other students that have an interest in the field of range management.
- Judging Teams - many Range Science majors choose to compete on the Plant Identification and the undergraduate Range Management Exam teams. These teams compete at international contests against teams from universities in the U.S., Canada and Mexico. Students also help to conduct range plant identification contests at SDSU.

## Department of Pharmaceutical Sciences

Omathanu Perumal, Department Head
Department of Pharmaceutical Sciences
Avera Health and Science Center 275
605-688-5598

### Faculty

#### Professors

Wenfeng An, Omathanu Perumal, Shafiqur Rahman, Hemachand Tummala

#### Associate Professors

Gudiseva Chandrasekher, Hesham Fahmy, Jayarama Gunaje, Joshua Reineke, Teresa Seefeldt, Komal Raina

#### Emeritus

Gary S. Chappell, Chandradhar Dwivedi, Xiangming Guan, Bernard Hietbrink, Joel E. Houglum, Danny Lattin, Yadhu Singh, Gary Van Riper

### Overview

The Department focuses on a student-centered curriculum that provides a strong foundation in pharmaceutical sciences. In addition, the department has a strong undergraduate and graduate research program. These prepare graduates for academic, industry, and research careers in the US and other countries.

The highly talented and dedicated faculty members provide quality education and research training in the pharmaceutical sciences. The department has an active research program in cancer, cardiovascular pharmacology, neuropharmacology, immunology, and eye diseases. The multidisciplinary research expertise includes medicinal chemistry, pharmacology, molecular biology, and pharmaceutics.

### Department Objectives

- Evolve the Pharm.D. curriculum to meet the changing needs of patients and the profession.
- Build on excellence in the Ph.D. program to meet the needs of the discipline.
- Expand postgraduate educational opportunities.
- Recruit, develop, and retain high quality faculty and staff.
- Increase pharmaceutical sciences-based innovative and translational research and scholarship.

### Programs

#### Majors

- Pharmaceutical Sciences (B.S.) in preparation for the Doctor of Pharmacy (Pharm.D.)

#### Graduate Programs*

- Pharmaceutical Sciences (M.S.)*
- Pharmaceutical Sciences (Ph.D.)*

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Facilities & Services

The department is housed in the Avera Health and Science Center. The department is fully equipped with state of the art-equipment for conducting pharmaceutical and biomedical research. The faculty have individual research laboratories in the Avera Health and Science Center. The department also has a shared cell culture and research instrumentation facility. The department has collaborative partnerships with Sanford Research and Avera Research. The department provides services to companies through facility-user agreements and continues to seek strategic partnerships with other Universities, research institutions, and the pharmaceutical industry.

## Department of Pharmacy Practice

James Clem, Acting Department Head
Department of Pharmacy Practice
Avera Health and Science Center 133, Box 2202C
605-688-6197 or 605-688-5591

### Faculty

#### Professors

James Clem, Daniel Hansen, William Hayes, Dennis Hedge, Jodi Heins, Thaddaus Hellwig, Wendy Jensen Bender, John Kappes, Brad Laible, Michael Lemon, Stacy Peters, Joey Strain

#### Associate Professors

Jennifer Ball, Jeremy Daniel, Amy Heiberger, Brittney Meyer, Deidra Van Gilder

#### Assistant Professors

William Anderson, Jordan Baye, Joe Berendse, Scout Forbes-Hurd, Kyle LaPorte, Sarah McGill, Alex Middendorf, Kari Taggart, Emily Van Klompenburg

#### Emeritus

Debra Farver, Janet Fischer, David Helgeland, Brian Kaatz, Kimberly Messerschmidt, Jane Mort, James E. Powers

### Overview

The Department of Pharmacy Practice builds on the fundamentals of pharmaceutical sciences so that students gain the knowledge and expertise to become skilled pharmacy practitioners once they complete the Doctor of Pharmacy (Pharm.D.) degree program. The department provides instruction for some of the courses leading up to the B.S. in Pharmaceutical Sciences degree and is responsible for the majority of the curriculum in the last two years of the professional program (P3 and P4) leading to the Doctor of Pharmacy (Pharm.D.) degree. The faculty members have practice sites in a wide array of pharmacy practice specialties and at a variety of locations providing students with a wealth of learning opportunities.

### Department Objectives

- To educate students in the various aspects of pharmacy practice, utilizing the principles of patient focused care, problem-based learning, and critical thinking.
- To work closely with the Department of Pharmaceutical Sciences to deliver a quality program leading to the Bachelor of Science (B.S.) degree in pharmaceutical sciences and the professional Doctor of Pharmacy (Pharm.D.) degree.
- To excel in the University tripartite mission of: teaching/advising; research, scholarship, and creative activity; and service (assigned professional and general).
- To prepare pharmacy graduates capable of providing high quality patient-centered and population-based pharmacist care to the people of South Dakota, the region, the nation and the world.

### Programs

#### Graduate Programs*

- Pharmacy (Pharm.D.)

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Facilities & Services

The Department of Pharmacy Practice is located in the Avera Health and Science Center and at Community College for Sioux Falls. The department provides service and outreach, including medication education to numerous healthcare organizations, health care professionals, and the general public throughout the state. The faculty is also involved in numerous research endeavors including collaborations on clinical trials of new medications and medication use, development of new and innovative pharmacy care delivery strategies, and study of innovative teaching approaches to improve the delivery of the pharmacy curriculum.

## Department of Physics

Douglas Raynie, Department Head
Department of Physics
Daktronics Engineering Hall 255
605-688-5428

### Faculty

#### Professors

Larry Browning, Yung Huh, Robert McTaggart

#### Associate Professor

Parashu Kharel

#### Senior Lecturer

Judy Vondruska

#### Lecturers

Geoffrey Bonvallet, W. Robert Matson, Rajendra Pokharel

#### Emeritus

George Duffey, Hans Graetzer, Ora Leisure, Oren Quist, Joel Rauber

### Overview

The mission of the SDSU Physics Department is to serve the public good by preparing students for the future as professionals and citizens. This mission is accomplished by providing high quality physics instruction for majors, non-majors and the community-at-large, conducting and disseminating scientific research to advance the frontiers of knowledge in Physics and Astronomy, and serving the community through education, technical expertise, and outreach activities.

The program and course offerings provide students with a strong foundation of knowledge, skills and abilities to enter graduate school or employment within the STEM fields. Students develop an understanding of the mathematical and theoretical foundations of the physical sciences and develop capabilities in laboratory experimental design and analysis. Students have access to state-of-the-art laboratories, nationwide internship programs, and other resources and opportunities that complement the coursework provided in the physics programs. The faculty members are recognized as experts in their field and are dedicated to student success.

### Department Objectives

- to serve students with an interest in a professional future in physics or its allied disciplines;
- to serve students interested in professional careers in allied physics fields such as engineering, medical/health physics and many other possibilities;
- to serve students from various colleges within the University who need a basic understanding of physics;
- add to the knowledge base of humanity through research and scholarship
- provide educational support to the citizens of South Dakota and surrounding region through outreach activities.

### Programs

#### Majors

- Physics (B.S.)
- Physics (B.S.) - Science Teaching Specialization

#### Minors

- Nuclear Engineering Minor
- Physics Minor

### Facilities & Services

The Physics department is located in Daktronics Engineering Hall and Crothers Engineering Hall. The department often hosts teacher workshops each summer. The focus of these workshops is to increase student interest and ability in math and science. Several camps are also offered for students through the College of Engineering which focus on a wide variety of engineering careers, including physics. In addition to these outreach activities, faculty members provide astronomy star parties for local schools, serve as judges for local and regional science fairs and act as a resource for students and teachers statewide.

### Student Support & Engagement Opportunities

The department offers opportunities for academic student engagement through coursework, research, and internships. Other avenues for student engagement through the department are provided by student organizations. The Physics Department sponsors local chapters of The Society of Physics Students (SPS – the primary physics student organization) and The Sigma Pi Sigma (the Physics honor society).

## Department of Undergraduate Nursing

Heidi Mennenga, Interim Associate Dean for Academic Programs
Department of Undergraduate Nursing
Wagner Hall 217, Box 2275
605-688-4114

### Faculty

#### Professors

Lori Hendrickx, Mary Anne Krogh

#### Associate Professors

Cynthia Elverson, Mary Isaacson, Heidi Mennenga, Thomas Stenvig, Jo Voss

#### Assistant Professors

Alham Abuatiq, Robin Brown, Karin Emery, Sarah Mollman, Danielle Schievelbein, Brandon Varilek, Alyssa Zweifel

#### Clinical Associate Professor

Robin Arends

#### Clinical Assistant Professors

Dannica Callies, Theresa Garren-Grubbs, Jack Mayeux, Christina Plemmons, Brandi Pravecek

#### Lecturers

Sue Bassett, Caitlyn Bosch, Anne Buttolph, Becka Foerster, Erika Huber, Mary Beth Johnson, Lyncee Monson, Jody Ness, Elizabeth Pasquariello, Heidi Pelzel, Mary Vockrodt, Venita Winterboer

#### Instructors

Nicole Albert, Nicole Carlson, Janice Conlee, Danielle Currier, Brittany Fenderson, Jodi Gross, Cori Heier, Wayne Hintz, LeAnn Lamb, Amanda Mehlhaff, Annette Ray, Anna Schneider, Takara Schomberg, Allyson Stromer, Patrick Verley, Megan Watson, Renee Zacher

#### Emeritus

Paula Carson, Gloria Craig, Margaret Hegge, Kay Foland, Barbara Hobbs, Sharon Hofland, Martha Iken, MaryLou Mylant, Coral Joffer, Roberta Olson, Lois Tschetter

### Overview

The department of Undergraduate Nursing curriculum prepares students for professional practice in a variety of acute care, community, and other settings. This education provides the foundation for the development of professional knowledge, critical thinking, ethical decision-making, leadership skills and pursuit of high standards in health care to influence quality health outcomes.

### Student Learning Outcomes

The department of Undergraduate Nursing seeks to prepare nurses to:

- Integrate theories and concepts from liberal education into nursing practice.
- Integrate effective leadership skills to improve the quality of health care.
- Incorporate evidence-based practice.
- Demonstrate proficiency in patient care technologies and informatics.
- Evaluate the implications of health policy and health care delivery systems on the professional nursing practice environment.
- Integrate effective interprofessional communication and collaboration into professional nursing practice.
- Improve population health through health promotion and disease prevention.
- Integrate behaviors that reflect nursing values and professional standards into practice.
- Provide patient-centered, quality care.

### Programs

#### Majors

- Nursing (B.S.N.)
- Nursing (B.S.N.) - Accelerated Program
- Nursing (B.S.N.) - RN to B.S.N.

#### Minors

- Health Science Minor

## Accreditation & Approvals

The baccalaureate degree in nursing, master's degree in nursing, Doctor of Nursing Practice programs at South Dakota State University are accredited by the Commission on Collegiate Nursing Education.

The undergraduate nursing program at SDSU is approved by the South Dakota Board of Nursing. The College is a member agency in the American Association of Colleges of Nursing. Candidates for graduation in the standard and accelerated curriculum are eligible to write the National Council Licensure Examination-RN (NCLEX-RN) for licensure as registered nurses. Licensure as a registered nurse (RN) is required by law in every state in order to practice professional nursing.

## Facilities & Services

The College of Nursing has state of the art Simulation Labs that enable educators to enhance the quality and delivery of nursing education. Simulation provides an opportunity for nursing students to practice nursing care with a variety of patients and patient scenarios including rural settings. The high-technology simulation setting allows students practice in the areas of electronic health records, informatics, and tele-health.

## Student Support & Engagement Opportunities

The department offers opportunities for student engagement through research, international travel opportunities, a freshmen Health Professionals Learning Community, and student organizations such as the Nurses Christian Fellowship, Student Nurses Association and Sigma Theta Tau International, an honor society for nursing students.

# Department of Veterinary & Biomedical Sciences

Jane Christopher-Hennings, Department Head
Department of Veterinary and Biomedical Sciences
Animal Disease Research and Diagnostic Laboratory 1105, Box 2175
605-688-5171

## Faculty

### Distinguished Professor

Eric Nelson

### Professors

Christopher Chase, Jane Christopher-Hennings, Russell Daly, Gary Gackstetter, Larry Holler, David Knudsen, Alan Young

### Associate Professors

Angela Pillatzki, Joy Scaria

### Assistant Professors

Benjamin Hause, Christina Larson, Chun-Ming Lin, Tamer Sharafeldin

### Lecturers

Beverly Cassady, Jessica Juarez

### Adjunct Professors

Bruce Erickson, Greta Krafsur, Dustin Oedekoven, Sheela Ramamoorthy, Robert Schaut

## Overview

The Veterinary and Biomedical Sciences Department advises students in the pre-veterinary medicine curriculum and offers courses in veterinary and biomedical sciences for undergraduate and graduate majors in related sciences. The interaction of service, discovery, and education that takes place within the Veterinary and Biomedical Sciences Department results in new knowledge, timely information, and students prepared for careers that make a difference for animals and people alike.

## Programs

### Minors

- Animal Health Minor

### Pre-Professional Interest Areas

- Pre-Veterinary Medicine

### Graduate Programs*

- Biological Sciences (M.S.)
- Veterinary Microbiology Emphases
- Veterinary Pathology Emphases
- Biological Sciences (Ph.D.)
- Biological Sciences (Ph.D.) - Veterinary Microbiology Specialization
- Biological Sciences (Ph.D.) - Veterinary Pathobiology Specialization

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Accreditation

American Association of Veterinary Laboratory Diagnosticians Accreditation

## Facilities & Services

- Animal Disease Research and Diagnostic Laboratory
- Food Safety Microbiology Laboratory
- Food Emergency Response Network

## Student Support & Engagement Opportunities

The SDSU Veterinary & Biomedical Sciences Department is home to the SDSU Pre-Veterinary Medicine Club. Club participation is a great mechanism for students to enrich their education and to develop leadership skills. The department also has scholarships available for incoming freshmen and upper-class students active in the Pre-Veterinary Medicine Program.

# Ness School of Management & Economics

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

## Faculty

### Professors

David Davis, Matthew Diersen, Eluned Jones, Nicole Klein, George Langelett, Jamie O'Brien, David Palmer, Joseph Santos, Evert Van der Sluis, Zhiguang Wang, Jason Zimmerman

### Associate Professors

Lisa Elliott, Matthew Elliott, Deepthi Kolady, Craig Silvernagel, Nacasius Ujah, Tong Wang

### Assistant Professors

Hailong Jin, Myoung Gin Keay, Andrea Leschewski, Pei-Yu Sun

### Lecturers

Victoria Dubbelde, Barbara Heller, Ryan McKnight

### Instructors

Thomas Clark, Allen Duetz, Elijah Kosse, Darin Wipf

### Field Specialists

Jack Davis, Heather Gessner

### Emeritus

David L. Chicoine, Carol Cumber, Thomas Dobbs, Scott Fausti, Larry Janssen, Han Kim, Charles Lamberton, Ardelle Lundeen, Patrick Lyons, Donald Peterson, Richard Shane

## Overview

The Ness School of Management and Economics plays a vital role in the life of the university and the state through its commitment to quality teaching, research, and outreach. School coursework includes Accounting, Agricultural Economics, Agricultural Business, Business Administration, Business Law, Decision Science, Economics, Entrepreneurial Studies, Finance, Human Resource Management, Management, and Marketing. The curriculum provides students with experience in agribusiness, agricultural finance, banking, business finance, business management, entrepreneurship, farm and ranch management, marketing, real estate appraisal, sales, and related fields. Faculty members are strongly dedicated to preparing students for successful careers.

## School Objectives

The Ness School of Management and Economics expects all its students to:

- Demonstrate the ability to apply concepts of economics and management that underlie the global economy and commerce;
- Demonstrate the ability to apply quantitative and qualitative analytical methods from economics and management to decision-making;
- Interpret and articulate analysis and decisions orally and in writing to diverse audiences;
- Make and support ethical decisions.

## Programs

### Majors

- Agricultural Business (B.S.) (College of Agriculture, Food and Environmental Sciences)
- Business Economics (B.A./B.S.) (College of Arts, Humanities and Social Sciences)
- Economics (B.A./B.S.) (College of Arts, Humanities and Social Sciences)
- Economics (B.S.) - Agricultural Economics Specialization (College of Agriculture, Food and Environmental Sciences)
- Entrepreneurial Studies (B.A./B.S.) (College of Arts, Humanities and Social Sciences)

### Minors

- Accounting Minor (College of Arts, Humanities and Social Sciences)
- Agribusiness Marketing Minor (College of Agriculture, Food and Environmental Sciences)
- Agricultural Business Minor (College of Agriculture, Food and Environmental Sciences)
- Commodity Risk Management Minor (College of Agriculture, Food and Environmental Sciences)
- Economics Minor (College of Arts, Humanities and Social Sciences)
- Entrepreneurial Studies Minor (College of Arts, Humanities and Social Sciences)
- Human Resources Minor (College of Arts, Humanities and Social Sciences)
- Land Valuation and Rural Real Estate Minor (College of Agriculture, Food and Environmental Sciences)
- Management Minor (College of Arts, Humanities and Social Sciences)
- Marketing Minor (College of Arts, Humanities and Social Sciences)
- Ranch Management Minor (College of Agriculture, Food and Environmental Sciences - offered jointly with Departments of Animal Science and Natural Resource Management)

### Certificates

- Agricultural and Environmental Law Certificate (College of Agriculture, Food and Environmental Sciences)
- New Product and Venture Development Certificate (College of Arts, Humanities and Social Sciences)

### Graduate Programs*

- Economics (M.S.) (traditional and accelerated)

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Facilities & Services

The school is housed in Harding Hall. The First Dakota National Bank e-Trading Educational Lab is located in Harding Hall and provides access to state of the art financial and marketing analytics for students and extension workshops.

Faculty and staff engage in outreach with industry and the community through one-on-one interaction, workshops, media contacts, and publications in areas such as banking and finance, business policy and strategy analysis, entrepreneurship, economic policy analysis, investment, and macroeconomics. Agricultural outreach work is shared through SDSU Extension, with programming in land economics, farm and ranch management, commodity marketing, risk management, and agricultural finance.

## Student Support & Engagement Opportunities

The school provides opportunity for students in and out of the classroom. The school supports several active student organizations: CEO (Collegiate Entrepreneurs' Organization) Club, Economics Club, FIRE (Finance, Insurance & Real Estate) Club, HR (Human Resources) & Management Club, Investment Club, and NAMA (National Agri-Marketing Association) Club. Students may earn credit while acquiring hands-on experience through national competitions associated with these organizations. Students are also encouraged to complete professional internships. Internships may be completed for credit which may be advantageous to some students.

## Accelerated Master's Degree in Economics

The program offers an accelerated master's degree to qualified undergraduate students who maintain an overall GPA of at least 3.5; these students may begin their graduate studies while they complete their undergraduate degree. Students may apply for admission to the accelerated master's degree program once they have completed 60 undergraduate credits. Students interested in the accelerated master's degree should contact the Ness School Management and Economics graduate coordinator to obtain application requirements. Application and admission to the Graduate School is required.

Contact the Graduate Coordinator for further information.

# School of American & Global Studies

Christine Garst-Santos, Director
School of American and Global Studies
Wagner Hall 121, Box 2275
605-688-5102

## Faculty

### Professor

Marie-Pierre Caquot Baggett, Molly Enz, Gregory Peterson, William Prigge, María Ramos-García, Eckhard Rölz

### Associate Professors

José Álvarez, Arthur James Murphy, Dale Potts, Christine Garst-Santos, Maria Spitz, Charles Vollan, Evren Celik Wiltse, David Wiltse, Graham Wrightson

### Assistant Professors

Sharity Bassett, Mark Freeland, Lisa Hager, Tasha Hauff, Luz Angélica Kirschner, Filip Viskupic

### Lecturers

George Tsakiridis

### Instructors

Macarena Escondrillas

### Emeritus

Ann Marie Bahr, Phillip Baker, Patricia Beattie, Rodney Bell, Dennis Bielfeldt, Robert Burns, Karen Cárdenas, David Crain, Michael Funchion, Delmer Lonowski, John E. Miller, David S. Nelson, Anthony Richter, Carl Sunde, Jerry Sweeney, Gordon Tolle

## Overview

The School of American and Global Studies (AGS) prepares critical thinkers and proficient researchers who are culturally literate and globally engaged. The School brings together many of the core disciplines in the humanities and social sciences. AGS offers majors and minors in American Indian studies, French studies, German, global studies, history, political science and Spanish, along with minors in legal studies, philosophy and religion in addition to a certificate in workplace intercultural competence. More broadly, the school fulfills SDSU's land-grant mission by creating an opportunity for the campus and the community to explore current and historical social, cultural and political issues in-depth. The curriculum provides students with experience in the cultural, historical, linguistic, philosophical, political, and religious systems that sustain U.S. and global societies.

School faculty efforts support a challenging curriculum that encourages civic participation to strengthen the values and historic traditions of democracy. Its members encourage and prepare students to live in an increasingly interconnected world and to understand and appreciate the human diversity created by cultures, geography, and time. The political science faculty promote an awareness and understanding of global events, while the history faculty identify the historic background and historical trends that influence these events. The modern languages faculty provide critical understanding of the languages, cultures, and histories of specific geopolitical regions. The philosophy and religion faculty deal with the fundamental questions of life, the basis of knowledge and morality and practices of the world's many religious traditions. All faculty contribute to the global studies curriculum, fostering the development of intercultural competence and global citizenship. This curriculum is presented in a manner that develops and enhances critical thinking and communication skills to prepare students for meaningful employment, further scholarship, and community engagement. These efforts facilitate the achievement of national distinction by the school's majors as scholars and engaged citizens.

Faculty research crosses academic, disciplinary, and geographic boundaries to advance and disseminate knowledge about key domestic and global issues that are of vital importance to South Dakota and beyond. As part of our Land Grant mission, the School connects the university with the community and the world through its outreach. We serve communities at home and abroad in areas such as linguistic and cultural competency, diversity and inclusion, and experiential learning. Many degrees prepare you for a specific job; our degrees prepare you for life in a globalized world.

## Modern Language Placement

Students entering the University with prior courses or family background in modern languages should take the placement exam. Students who test into courses beyond 101 are eligible to receive credit for all previous courses up to 202 (i.e., 101, 102, 201, and 202). Whatever a student's career goals, previous study of any second language may make a second major or a minor feasible. Employers in every field seek graduates who are interculturally competent.

Students who are native speakers of a language other than English can apply to get first or second year credit (101, 102, 201, and 202) for their native language. For more information please check the Modern Language Credit policy in the Policies & General Academic Information section of this catalog.

## International Students

International students enrolled at SDSU are strongly encouraged to discuss with their advisor or the Director possible variations in requirements for the majors and minors that take into consideration their mastery of a foreign language and previous international experiences. The School has placement information as well as specific information on all of its programs available in the main office of the School of American and Global Studies and on the school's web page.

## Programs

### Majors

- American Indian and Indigenous Studies (B.A.)
- French Studies (B.A.)
- French Studies (B.A.) - Teaching Specialization
- German (B.A.)
- German (B.A.) - Teaching Specialization
- Global Studies (B.A.)
- History (B.A./B.S.)
- History (B.A./B.S.) - Teaching Specialization
- Political Science (B.A./B.S.)
- Spanish (B.A.)
- Spanish (B.A.) - Teaching Specialization

### Minors

- American Indian and Indigenous Studies Minor
- French Studies Minor
- German Minor
- Global Studies Minor
- History Minor
- Legal Studies Minor
- Philosophy Minor
- Political Science Minor
- Religion Minor
- Spanish Minor

### Certificates

- Workplace Intercultural Competence Certificate

### Pre-Professional Interest Areas

- Pre-Law
- Pre-Ministerial

## Facilities & Services

The School of American and Global Studies has a language resource center for language practice and testing. The School offers computerized Oral Proficiency Interviews that rank student language proficiency and provide a nationally recognized certificate that can be used when applying to both jobs and graduate schools.

## Student Support & Engagement Opportunities

The School provides numerous opportunities for student involvement through the Arrowhead Model United Nations program, Pre-Law Society, and French, Spanish, German, Global Studies, History, and Political Science clubs. Some of these activities include film screenings, game nights, conversation tables, and meals featuring food from around the world. Students also have the possibility to become members of the Delta Phi Alpha German Honor Society, Sigma Delta Pi Spanish Honor Society, and Phi Alpha Theta (History's national honor society).

The School provides numerous travel, service, and internship opportunities for students, both locally and abroad. Faculty-led study abroad programs are offered annually, some of which include a service-learning component. Many of the language and global studies courses integrate service-learning projects where students can become involved with a local community partner and gain practical experience in their field of study.

# School of Communication & Journalism

Joshua Westwick, Director
Rebecca Kuehl, Associate Director
School of Communication and Journalism
Yeager Hall 211, Box 2235
605-688-4171

## Faculty

### Professors

Karla Hunter, Roxanne Lucchesi

### Associate Professors

Jenn Anderson, Rocky Dailey, Rebecca Kuehl, Joshua Westwick

### Assistant Professors

Kathryn Coduto, Marina Hendricks

### Instructors

Andrea Carlile, James Helland, Mary Jo Nesmith, Frank Robertson, Heather Solberg

### Emeritus

Mary Arnold, Charles Cecil, Jack Getz, Doris Giago, Laurie Haleta, Joel Hefling, Ruth Laird, Lyle Olson, Mary Perpich, Michael Schliessmann

## Overview

The School of Communication and Journalism fosters the development of exemplary communicators as industry leaders, scholars, professionals, and educators through innovative curricula, research, practice, and opportunities.

## Programs

### Majors

- Advertising (B.A./B.S.)
- Agricultural Education, Communication and Leadership (B.S.) - Communication Specialization (with the College of Agriculture and Biological Sciences)
- Communication Studies (B.A./B.S.)
- Communication Studies (B.A./B.S.) - Speech Education Specialization
- Journalism (B.A./B.S.)
- Public Relations (B.A./B.S.)

### Minors

- Advertising Minor
- Communication Studies Minor
- Digital and Social Media Minor
- Health Communication Minor
- Journalism Minor
- Marketing Minor
- Public Relations Minor

### Graduate Programs*

- Communication and Media Studies (M.A.)
- Mass Communication (M.M.C.)

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Advanced Placement in Oral Communication

All students are required to take a designated oral communication course for graduation; however, those with previous training and experience in speech may apply to the School to take an advanced placement course in Communication Studies and earn credit for CMST 101 - Fundamentals of Speech (COM) [SGR #2] concurrently. The disposition of the application for advanced placement rests with the Professional Advisor.

## Facilities & Services

The School of Communication and Journalism's main office is in Yeager Hall, the former Printing and Rural Journalism Building renamed in recognition of the contributions of Anson and Ada May Yeager. Mr. Yeager was longtime editor of the Argus Leader in Sioux Falls. The Yeager Media Center, completed in 2012, is a high-definition television and new media facility and the primary center for SDSU campus media production. Newly remodeled classrooms enhance teaching

space in the modern educational facility. The second floor of Yeager Hall includes a conference room, a reading room, a student lounge, and individual offices. Communication studies faculty offices are in the Pugsley Continuing Education Center. In the future, all faculty offices will be in Yeager Hall.

## Student Support & Engagement Opportunities

Students are invited to participate in one of the student organizations that faculty in the School advise:

- Advertising Club
- Agricultural Communicators of Tomorrow
- Journalism Club
- Public Relations Student Society of America

Being involved in a student organization is a great way to spend time with other students in the department, promote activities on campus and gain leadership skills. The School also has four honor society/organizations for qualified students: Alpha Delta Sigma (Advertising), Kappa Tau Alpha (Journalism), Lambda Pi Eta (Communication Studies), and Pi Kappa Delta (Forensics). Additionally, while pursuing a degree in any major, students have the opportunity to get involved in Forensics.

Forensics - Opportunities are provided for participation in SDSU's nationally recognized intercollegiate Forensics program. Local, regional, and national participation is sponsored. Activities include debate, public speaking, and oral interpretation in contests, workshops, and public performances. Any regularly enrolled undergraduate student is eligible to participate. University credit may be earned regardless of major. For more information contact instructor Andrea Carlile, Director of Forensics.

# School of Design

Pat Crawford, Director
School of Design
Grove Hall 101
605-688-4103

## Faculty

### Professors

Leda Cempellin, Pat Crawford, Cable Hardin

### Associate Professors

Diana Behl, Donald Burger, Federico Garcia Lammers, Young Ae Kim, Angela McKillip, Brian Rex

### Assistant Professors

Jessica Garcia Fritz, Elizabeth Tofte

### Senior Lecturer

Mark Stemwedel

### Lecturers

Robert Arlt, Brian Lee, Beverly Krumm, Peter Reichardt, Molly Wicks

### Instructors

Jeremiah Bergstrom, Shannon Frewaldt, Dallas Willman, Fang Xu

### Emeritus

Richard Edie, Helen Morgan, Linda Nussbaumer, Melvin Spinar, Michael (Tim) Steele, Signe Stuart

## Overview

The Difference is Design.

The School of Design provides opportunity for students desiring to study architecture, graphic design, interior design, landscape architecture, studio art and/or art education. These disciplines have come together to form a School of Design that provides a unique collaborative environment leading to better-prepared graduates who are professionally qualified to contribute to the vitality and well-being of South Dakota and beyond.

School of Design students enroll in courses that explore design thinking, creativity and professional study while enjoying in-depth educational experiences leading to professional licensure, stronger portfolios and increased opportunities following graduation.

The School of Design offers Bachelor of Fine Art degrees in Architecture, Graphic Design, Interior Design, and Studio Art along with the Bachelor of Landscape Architecture in Landscape Architecture and the M.Arch. in Architecture. The School of Design programs are accredited as follows: Architecture is accredited by NAAB, Landscape Architecture is accredited by LAAB and Interior Design is accredited by CIDA.

## Departments

- Architecture

## Programs

### Majors

- Architecture (B.F.A.)
- Graphic Design (B.F.A.)
- Interior Design (B.F.A.)
- Landscape Architecture (B.L.A.)
- Studio Art (B.F.A.) - Art Education Specialization
- Studio Art (B.F.A.) - Ceramics Specialization
- Studio Art (B.F.A.) - Painting Specialization
- Studio Art (B.F.A.) - Printmaking Specialization
- Studio Art (B.F.A.) - Sculpture Specialization

### Minors

- Design Studies Minor
- Film Studies Minor
- Graphic Design Minor
- History of Art and Design Minor
- Museum Studies Minor
- Studio Arts Minor

### Certificates

- Animation Certificate
- Art History Certificate
- Ceramics Certificate
- Graphic Design Certificate
- Painting Certificate
- Printmaking Certificate
- Sculpture Certificate

### Graduate Programs*

- Architecture (M.Arch.)

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Memberships

The School of Design maintains national and international memberships to ensure the highest quality of professional preparation for graduates and to support faculty research initiatives. Membership with national accreditation agencies assures students and constituents of professional rigor and a comprehensive approach to design education.

ACSA, Representing the role of schools in the development of architects, the Association of Collegiate Schools of Architecture provides a forum for ideas on the leading edge of architectural thought.

AIA, The American Institute of Architects the leading professional membership association for licensed architects, emerging professionals, and allied partners. AIA serves as the voice of the architecture profession and the resource for our members in service to society.

AIAS, The American Institute of Architecture Students, a student-run organization dedicated to providing programs, information, and resources on issues critical to architectural education.

AIGA, American Institute of Graphic Arts, the professional organization for graphic designers. Their mission is to define global standards and ethical practices, guide design education, inspire designers and the public, enhance professional development, and make powerful tools and resources accessible to all.

CAEP, Council for the Accreditation of Educator Preparation, the professional organization established to promote high quality teacher preparation. CAEP works to make a difference in the quality of teaching and teacher preparation today, tomorrow, and for the next century. CAEP believes every student deserves a caring, competent, and highly qualified teacher.

CELA, Council of Educators in Landscape Architecture, the professional organization for landscape architecture programs. The purposes of The CELA are to encourage, support and further education in the field of landscape architecture specifically related to teaching, research, scholarship, and public service.

CIDA, Council for Interior Design Accreditation, the accrediting organization for interior design programs. The accredited programs assure the public that interior design education prepares students to be responsible, well-informed, skilled professionals who make beautiful, safe, and comfortable spaces that also respect the earth and its resources.

FATE, Foundations in Art: Theory and Education, the national association dedicated to the promotion of excellence in the development and teaching of college-level foundation courses in both studio and art history.

ICS, International Sculpture Center, champions the creation and understanding of sculpture and its unique and vital contribution to society. ICS's mission is to advance the art form, promote a supportive environment for sculpture that educates and effects social change.

IDEC, Interior Design Educators Council, "dedicated to the development and improvement of interior design education," to establish and strengthen 'lines of communication between individuals, educational institutions and organizations concerned with interior design," and to strive "to improve teaching of interior design, and through it the professional level of interior design."

IDP, The Intern Development Program identifies the comprehensive experience that is essential for the independent practice of architecture. IDP is developed and administered by NCARB. SDSU's Department of Architecture requires enrollment in IDP for graduation and has a faculty IDP Coordinator for counseling and mentorship.

LAAB, the Landscape Architectural Accreditation Board, evaluates, advocates for, and advances the quality of education in landscape architectural programs. It promotes self-evaluation and adherence to standards in a non-punitive manner.

NAAB, The National Architectural Accreditation Board develops and maintains a system of accreditation in professional architecture education that is responsive to the needs of society and allows institutions with varying resources and circumstances to evolve according to their individual needs.

NASAD, National Association of Schools of Art and Design, is the national accrediting agency for art and design and art and design-related disciplines. The Association provides public information. They produce statistical research, provides professional development for leaders of art and design schools, and engages in policy analysis.

NCARB, The National Council of Architectural Registration Boards protects the public health, safety, and welfare by leading the regulation of the practice of architecture through the development and application of standards for licensure and credentialing of architects.

SDBTP, The South Dakota Board of Technical Professions, the board charged with licensing and regulating the professional practice of architecture and landscape architecture for the purpose of safeguarding public health, safety and welfare in the State of South Dakota.

SDAF, South Dakota Advertising Federation, serves as a unified voice for sales, marketing and business professionals through award winning programs, the South Dakota ADDY Awards, educational opportunities including Student Day and a student advertising competition, and public service projects, while acting as a connecting point to the 8th District of the American Advertising Federation and the American Advertising Federation.

## Facilities & Services

The School of Design provides specialized art, architecture and design studios: located in the Architecture Math and Engineering building (architecture), Design Studio, Grove Hall (graphic design and studio art), Edgar S. McFadden Biostress Laboratory (landscape architecture), The Barn (studio art) and Wagner Hall (interior design) on the SDSU campus. The Van Zante Gallery is located in Wagner Hall and the Ritz Gallery is located in Grove Hall. They house public exhibitions with works by students, faculty, alumni, and visiting artists/designers throughout the year. The Ritz exhibitions compliment the South Dakota Art Museum by providing visual art enrichment for the campus, community, and the state of South Dakota. The Van Zante and Ritz Galleries also provide public scrutiny of the Schools programs in all of their variety. The annual schedule of 25 exhibitions also functions heavily in the curriculum.

Instruction is enhanced by student travel opportunities to national art, architecture and design centers through study abroad programs, and national and international art, architecture and design conferences. Seven to ten nationally recognized visiting artists, designers, and architects; supplement instruction yearly.

## Student Support & Engagement Opportunities

Departments and programs within the School of Design offers opportunities for student engagement through creative activities, scholarship and student organizations.

- Art Club
- AIGA (American Institute of Graphic Art)
- SDAF (South Dakota Advertising Federation)
- Annual juried student art exhibitions
- SoDak Animation Festival
- Honors Art History
- South Dakota Art Museum internships
- Professional graphic design internships
- Landscape Architecture Club
- Student Chapter of the American Society of Landscape Architects
- Annual LABash national student conference
- Professional landscape architecture internships
- Sigma Lambda Alpha honor society
- McCrory Gardens summer employment
- Annual South Dakota Nursery and Landscape Association conference
- Professional Interior Design internships
- South Dakota Interior Designers Student Chapter
- Undergraduate scholarship and creative opportunities

# School of Education, Counseling & Human Development

Jay Trenhaile, Director
School of Education, Counseling and Human Development
Wenona Hall 109/ Wagner Hall 369
605-688-4190 or 605-688-4321

Patrick Hales, Secondary Education Program Coordinator
Wenona Hall 219
605-688-4369

Mary Bowne, Early Childhood Education Program Coordinator
Pugsley Hall 139
605-688-5989

## Faculty

### Professors

Mary Bowne, Hande Briddick, Kay Cutler, Alan Davis, Andrew Stremmel, Jay Trenhaile

### Associate Professors

Andrea Bjornestad, William Briddick, Ann Michelle Daniels, Anthony Durr, Nicole Graves, Patrick Hales, Laura Hasselquist, Amber Letcher, P. Troy White, Alison Wilson

### Assistant Professors

Staci Born, Christin Carotta, Aileen Garcia, Erin Lavender-Stott, Kristine Ramsay-Seaner, Katelyn Romsa

### Senior Lecturer

Teri Johnson

### Lecturers

Susanne Brokmeier, Laura Gloege, Melissa Granum, Gregory Howard, Lisbeth Leagjeld, Amy Pedersen, Lynda Venhuizen

### Instructors

Valerie Albert, Amy Holm, Bethann Murphy, Bonnie Shinn

### Emeritus

Lowell Amiotte, Keith Corbett, Carl Edeburn, V. Duane Everett, Clark Hanson, Ruth Harper, Darrell Jensen, Peggy Gordon Miller, Lon Moeller, Marla Muxen, Cindi Penor-Ceglian, Lawrence Rogers, Howard Smith, Gary Steinley, Ann Wilson

## Overview

The mission of the School of Education, Counseling, and Human Development is to provide high quality educational experiences to learners across the education and human science fields, and to generate knowledge of human behavior, learning science, and interpersonal relationships.

The School of Education, Counseling, and Human Development creates a unique niche across programs in education and human science fields that emphasizes developmental sciences and the science of learning. By more fully integrating human development and education, we will be able to better ground teacher education in the context of developmental and cultural relevance, and we will further strengthen our offerings in human development by grounding them in the

science of learning. Both areas underscore the importance of how learning across the lifespan develops in diverse learners. Diverse here references not only differences in cognitive and learning styles, but differences in culture, socioeconomic status, and lifestyle.

Students will participate in practical experiences designed to provide the knowledge, skills, and experiences necessary for careers in individual and family service settings; child/adult focused human services, and/or continued coursework in graduate school.

For those students who are uncertain about a major, the School of Education, Counseling and Human Development is home to the Exploratory Studies program, a designated program for South Dakota State University to assist students in identifying the right field of study. The Exploratory Studies program is closely supported by university academic advisors, who help identify courses and experiences based on majors and career areas of interest. The School of Education, Counseling and Human Development is one of the few public university departments in South Dakota that delivers programs at the main campus in Brookings, Community College for Sioux Falls, BHSU - Rapid City, and online.

The School of Education, Counseling and Human Development prepares educational professionals to be teachers and educational leaders for the 21st century. The School is committed to preparing highly qualified professionals, creating and sharing new knowledge in our profession, and developing outreach opportunities with stakeholders in the field.

## Programs

### Majors

- Agricultural Education, Communication and Leadership (B.S.) - Agricultural Education Specialization (offered in partnership with College of Agriculture, Food and Environmental Sciences)
- Early Childhood Education (B.S.) - Birth to 8 Specialization
- Early Childhood Education (B.S.) - Cooperative Elementary Education Program with DSU
- Early Education and Care (B.S.)
- Family and Consumer Sciences Education (B.S.)
- Human Development and Family Services (A.S.)
- Human Development and Family Studies (B.S.)

### Minors

- Early Childhood Education Minor
- Gerontology Minor
- Human Development and Family Studies Minor
- Rehabilitation Services Minor

### Certification Preparation

- Education Curriculum for Teachers of Academic Subjects
- Secondary Teacher Education - Certification Only

### Endorsements

- Early Childhood Education Kindergarten Education Endorsement
- Early Childhood Special Education Endorsement (Birth to Age 8)

### Graduate Programs*

- Academic Advising Certificate
- Agricultural Education (M.S.)
- Competency-Based Learning Certificate
- Counseling and Human Resource Development (M.Ed.) - Administration of Student Affairs Specialization
- Counseling and Human Resource Development (M.S.) - Clinical Mental Health Counseling Specialization
- Counseling and Human Resource Development (M.S.) - College Counseling Specialization
- Counseling and Human Resource Development (M.S.) - Marriage and Family Counseling Specialization
- Counseling and Human Resource Development (M.S.) - Rehabilitation Counseling Specialization
- Counseling and Human Resource Development (M.S.) - School Counseling Specialization
- Curriculum and Instruction (M.Ed.) - Early Childhood Education Specialization
- Curriculum and Instruction (M.Ed.) - Elementary Education Specialization
- Curriculum and Instruction (M.Ed.) - Secondary Education Specialization
- Educational Administration (M.Ed.)
- Human Sciences (M.S.) - Developmental Sciences Specialization
- Human Sciences (M.S.) - Developmental Sciences Specialization
- Human Sciences (M.S.) - Family and Community Services Specialization
- Human Sciences (M.S.) - Family and Consumer Sciences Education Specialization

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Exploratory Studies Program for Undeclared Majors

SDSU allows students without declared majors to begin college work through its program for undeclared/deciding students. This selection of courses provides students an opportunity to explore a variety of academic areas prior to selecting a major. Many of these courses are designated with the ACS prefix, which stands for Academic and Career Success. Deciding students are assisted in planning their college program and encouraged to explore various fields of study. Deciding student enrollment is normally for the freshman year as they are encouraged to choose a major within two semesters. Students are expected to be in good academic standing as they explore academic options and declare majors. SDSU has identified five (5) tracks of introductory coursework that will help students explore degrees within the major fields of study offered at our institution. When students apply to SDSU, they select a track of their choice during the application process. Each track exposes them to specific insights about careers and opportunities within specific fields of study.

- Exploratory Studies Program Tracks
- Education, Social Sciences and Management
- Humanities, Fine Arts and Design
- Health Sciences
- Engineering, Technology and Math
- Agriculture and Natural Sciences

Academic advisors assist first year students in the process of identifying their interests, aptitudes and abilities. Students work with advisors to plan out a program that will meet their interests and needs. The School of Education, Counseling and Human Development offers a two-credit course entitled ACS 102 - Exploratory Studies which assists with career decision making strategies. First year students at SDSU also enroll in a two-credit ACS 119 - First Year Seminar, which helps them acclimate to college life and learn about SDSU resources. Transfer and non-traditional students enroll in ACS 219 - Transition Year Seminar. A suggested first year schedule follows:

| **Freshman Year** | Fall | | Spring |
|---|---|---|---|
| ACS 102 - Exploratory Studies | 2 | or | 2 |
| ACS 119 - First Year Seminar | 2 | | |
| ACS 143 - Mastering Lifetime Learning Skills | 3 | or | 3 |
| CMST 101 - Fundamentals of Speech (COM) [SGR #2] | 3 | or | 3 |
| ENGL 101 - Composition I (COM) [SGR #1] | 3 | or | 3 |
| MATH 114 - College Algebra (COM) [SGR #5] (or prescribed MATH course) | 3 | or | 3 |
| Humanities Core Courses | 3 | or | 3 |
| Social Sciences Core Courses | 3 | or | 3 |
| Biological or Physical Science Core Courses | 3-4 | or | 3-4 |
| Interest Area Courses | 3 | or | 3 |

## Facilities & Services

The School has several unique facilities and services.

- Family Resource Network
- Child and Adult Care Food Program
- Toy and Resource Lending Library
- Fishback Center for Early Childhood Education

## Student Support & Engagement Opportunities

The School encourages student participation in organizations and honor societies.

- Alpha Tau Alpha is an honor society in Agricultural Education open to majors
- Kappa Delta Pi is an honor society that recognizes outstanding contributions to education
- Student National Education Association is affiliated with the South Dakota Education Association and the National Education Association and provides opportunities for professional growth
- South Dakota Association for the Education of Young Children provides opportunities for professional growth for Early Childhood majors

The School also provides information and assistance as students seek out scholarship, internship, and career opportunities.

## School of Health & Consumer Sciences

Kendra Kattelmann, Director
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5161

### Faculty

#### Distinguished Professor

Kendra Kattelmann

#### Professors

Moul Dey, Jessica Meendering, Matthew Vukovich

#### Associate Professors

Cody Christensen, Elizabeth Droke, Lacey McCormack, Kunsoon Park

#### Assistant Professors

Axton Betz-Hamilton, Xu Li, Hungling (Stella) Liu, Trevor Roiger, Bryan Romsa, Lee Weidauer, Mary Beth Zwart

#### Senior Lecturer

Tracy Nelson

#### Lecturers

Kimberly Gustafson, Kathryn Morrison, Julie Tkach

#### Instructors

Christopher Comstock, Becky Jensen, Bonnie (Anne Marie) Junker, Maria Julius, September Kirby, Miranda Sullivan, Jill VanDamme

#### Emeritus

Julie Bell, James Booher, Georgia Crews, Michael Crews, Bernadine Enevoldsen, Harry Forsyth, Elizabeth Gorham, Patricia Hacker, Jane Hegland, Nancy Lyons, Madeleine Rose, Robert Rose, Igor Sergeev, Bonny Specker, Harriet Swedlund

### Overview

The School of Health and Consumer Sciences is dedicated to improving quality of life regionally, nationally, and globally by fostering lifelong learners, conducting innovative science, and delivering effective outreach in the areas of health and consumer sciences with particular emphasis on sustainable management of resources. The integration of academic programs, which focus on nutrition, health, recreation, exercise, human performance, leadership, management, customer service, retail merchandising, aviation education, and technology provides students and faculty with unique opportunities to collaborate and to promote interaction among students in different majors with a common focus to develop successful professionals contributing to work force development.

The course offerings help develop students with a strong foundation of knowledge, skills and abilities to enter graduate school or employment within the health care field, industry, or education. Students learn how to critique and analyze research within their designated field and have access to state-of-the-art teaching and research laboratories, nationwide internship programs, and study abroad experiences. The faculty members are nationally recognized as experts in their field and are dedicated to student success.

### School Objectives

- To improve the quality of life regionally, nationally, and globally by fostering lifelong learners, conducting innovative science, and delivering effective outreach in the areas of health and consumer sciences.
- To provide premier leadership in health and consumer sciences dedicated to excellence in learning, discovery, and outreach.

### Programs

#### Majors

- Aviation (B.S.) - Aviation Education Specialization
- Aviation (B.S.) - Aviation Maintenance Management Specialization
- Community and Public Health (B.S.)
- Consumer Affairs (B.S.) - Consumer Services Management Specialization
- Consumer Affairs (B.S.) - Family Financial Management Specialization
- Exercise Science (B.S.)
- Fashion Studies and Retail Merchandising (B.S.)
- Hospitality, Tourism, and Event Management (B.S.)
- Leadership and Management of Nonprofit Organizations (B.S.)
- Nutrition and Dietetics (B.S.)
- Physical Education Teacher Education (B.S.)
- Sport and Recreation Management (B.S.)

#### Minors

- Apparel and Fashion Studies Minor
- Aviation Minor
- Events and Facilities Administration Minor
- Financial Counseling Minor
- Health Education Minor
- Leadership and Management of Nonprofit Organizations Minor
- Leadership Minor
- Nutrition Minor
- Recreation Administration Minor
- Retail Merchandising Minor
- Sustainable Local Foods Minor (Offered in collaboration with the Department of Agronomy, Horticulture, and Plant Science)

#### Certification Preparation

Athletic Coaching Certification

#### Pre-Professional Interest Areas

- Pre-Athletic Training
- Pre-Occupational Therapy
- Pre-Physical Therapy

#### Graduate Programs*

- Athletic Training (M.S.)
- Dietetics (M.S.)
- Family Financial Planning Certificate
- Financial and Housing Counseling Certificate
- Human Sciences (M.S.) - Family Financial Planning Specialization
- Human Sciences (M.S.) - Merchandising Specialization
- Merchandising Certificate
- Nutrition and Exercise Sciences (M.S.) - Exercise Science Specialization
- Nutrition and Exercise Sciences (M.S.) - Nutritional Sciences Specialization
- Nutrition and Exercise Sciences (Ph.D.)
- Sport and Recreation Administration (M.S.)
- Transdisciplinary Childhood Obesity Prevention Certificate

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

### Student Support & Engagement Opportunities

The School offers a number of opportunities for student involvement. The student organizations provide professional development and social interaction through numerous events on campus, as well as service learning and travel opportunities. Undergraduate research provides opportunities to work in research laboratories with professors. Students are able to become actively involved in data collection and data analysis as well as have the chance to write, travel, and present research. The School also awards scholarships to incoming and current students.

Because of the world economy and the importance of developing an international perspective, the department offers travel study opportunities regionally, nationally, and internationally. Programs around the world are available to our students via the Office of International Affairs. Students work with an advisor to ensure that the transfer of credits occurs prior to taking advantage of one of these opportunities.

There are active student organizations associated with each major areas of study: Apparel Merchandising Association, Exercise Science, SDSU Flying Jacks, National Consumers League, Hospitality Management Club, Nonprofit Leadership Alliance, and Nutrition and Dietetics. Students plan educational programs and tours, attend regional and national professional meetings, undertake service projects for the SDSU campus and community, and often plan field trips to manufacturers, professional businesses, museums, trade shows, and more.

## School of Performing Arts

David Reynolds, Director
School of Performing Arts
Oscar Larson Performing Arts Center 123B, Box 2830
605-688-5187

## Faculty

### Music

**Professors**

Don Crowe, Laura Diddle, Aaron Ragsdale, David Reynolds, Emily Toronto

**Associate Professors**

John Brawand, Andrew Robinette, Jacob Wallace, Michael Walsh, Tammy Yonce

**Assistant Professor**

Mark Stevens

**Senior Lecturer**

Kevin Kessler

**Lecturer**

Yiqun Chen

### Theatre & Dance

**Professors**

John D. Ackman, Corey Shelsta

**Associate Professors**

Melissa Hauschild-Mork, Lonnie Wilburn, William Wood

### School of Performing Arts

**Emeritus**

Charles Canaan, John Colson, Warren Hatfield, Corliss Johnson, James L. Johnson, James McKinney, Raymond Peterson, David Piersel, Darwin Walker

## Overview

The School of Performing Arts at South Dakota State University fosters and provides opportunities for creativity, performance, and both artistic and intellectual understanding through the study and practice of performing arts within contemporary and historical cultures. Mindful of the University's Land Grant mission, we strive to provide outreach-engagement that creates meaningful connections among students, the University, and the broader community.

## Program Objectives

- To serve the university, state, and region by delivering approved and well-defined undergraduate curricula in music, theater, and dance;
- To engage in critical and analytical thought in order to create an informed understanding and enduring curiosity;
- To promote individual growth that nurtures the development of the whole person;
- To practice artistry in order to enable appreciation and expression through creativity and innovation;
- To cultivate global awareness and respect for differing perspectives; and
- To provide enrichment by connecting people through engagement, service, and collaboration within and beyond the University.

## Programs

### Majors

- Music (B.A.) - Music Studies Specialization
- Music (B.A.) - Music Entrepreneurship Specialization
- Music Education (B.M.E.)
- Theatre (B.A./B.S.)

### Minors

- Dance Minor
- Music Minor
- Performing Arts Administration Minor
- Theatre Minor

## Music Program Application Requirements

1. Admission as a music major in any of the music degree programs requires the successful completion of an audition in the student's major area of applied instruction.
2. Music majors in all degree programs must choose one area of applied instruction in which to specialize. Further, students must meet the applied proficiency standards of the program in that area. To that end, students must:
    1. successfully complete a jury examination each semester.
    2. apply for and be granted approval to advance to upper level applied study (300-400 levels).
    3. complete a minimum of 6 hours of upper level (300-400) applied study
3. Piano proficiency is required of all majors. Several approaches to meeting the requirements are available. See the Student Handbook published and available from the program for more specifics. The piano proficiency must be passed before the senior recital may be scheduled.
4. Voice or instrumental proficiency is required of all keyboard majors.
5. Ensemble Requirements:
    1. All music majors must participate in at least one major ensemble each semester they are enrolled as a regular university student (Internship and Student Teaching semesters excepted). See the Student Handbook for more details.
    2. Participation in small ensembles is strongly encouraged for all majors and minors.
6. A minimum of five pedagogy courses is required for students in the B.M.E program, and while the required pedagogies develop proficiencies within the areas of specialization for B.M.E. students, a functional knowledge of instrumental or vocal techniques outside the specialty is also essential. For instrumental B.M.E. majors, this must include one semester each of string, woodwind, brass, and percussion pedagogies. Six semesters will assure the broadest preparation through multiple levels of woodwind and brass pedagogy. In addition, instrumental B.M.E. majors must take MUS 270/ 271 general voice for instrument majors. For vocal B.M.E. majors, the four required semesters of vocal pedagogy are augmented by MUS 270/271 general instrument for voice majors.
7. Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her advisor.
8. Recommendations for music entrepreneurship students wishing to enroll for the Internship experience must be issued by the program Coordinator.
9. A senior recital is required of all music majors.
10. Majors and minors must enroll for Recital Attendance (MUS 185) each semester they are enrolled for applied music lessons.

## Accreditation

South Dakota State University's music program is accredited by the National Association of Schools of Music (good standing reaffirmed in 2011).

South Dakota State University's theatre program is accredited by the National Association of Schools of Theatre.

## Facilities & Services

The School of Performing Arts is located in the new, state-of-the-art Oscar Larson Performing Arts Center.

## Student Support & Engagement Opportunities

The School of Performing Arts provides students the opportunity to explore the widest variety of musical experiences and thinking through academic study, performance, student organizations, and travel. All SDSU students are welcomed to participate in music ensembles, applied lessons, music appreciation classes, and in some music literature and history offerings. The School of Performing Arts also sponsors several clubs and organizations.

- National Association for Music Education
- Music Teachers National Association
- American Choral Directors Association
- Kappa Kappa Psi/Tau Beta Sigma (Music)
- Alpha Psi Omega (Theatre)

### Dance

The holistic program embraces many genres of dance to include: social, multi-cultural, creative movement, dance for the musical theatre and jazz, tap, ballet and modern dance techniques. The variety ensures that all students no matter their history or training will find opportunities for growth and transformation in the program. For more information contact Assistant Professor Melissa Hauschild-Mork, Coordinator of Dance.

### Music

With three degree options, a marching band, three choirs, three concert bands, a symphony orchestra, and two jazz ensembles, there is a musical outlet for everyone in the program. The program focuses its attention on undergraduate

learning, research, creative activity, and service to the discipline of music. For more information contact Professor David Reynolds, Director of the School of Performing Arts.

### Theatre

There are several major, experimental and student productions each year. Students may be cast in or assist with a production. University credit may be earned. Summer theatre also offers undergraduate credit through Prairie Repertory Theatre. For more information contact Professor J.D. Ackman, Director of Theatre.

## School of Psychology, Sociology & Rural Studies

Paul Markel, Director
School of Psychology, Sociology and Rural Studies
Hansen Hall 029
605-688-4322

## Faculty

### Professors

Mary Emery, Paul Markel, Rebecca Martin, Meredith Redlin, Debra Spear

### Associate Professors

Abdallah Badahdah, Tyler Miller, Weiwei Zhang

### Assistant Professors

Maaz Gardezi, Alper Kayaalp, Candace May

### Senior Lecturer

Patricia Ahmed

### Lecturer

Pirita See

### Instructor

Ellie Arndt

### Emeritus

Allen Branum, Robert Burke, Geoffrey Grant, Donna Hess, Kenneth Hillner, Diane Kayongo-Male, Robert Mendelsohn, Virginia Norris, Brady Phelps, James Satterlee, Ron Stover, Bradley Woldt

## Overview

The School of Psychology, Sociology and Rural Studies is a doorway to a number of exciting opportunities for students. They may choose from several programs in which they develop the skills sought by social service, human services, and criminal justice agencies as well as private, government and nonprofit employers.

The School provides a robust and challenging undergraduate curriculum that produces a sound knowledge base in the science of psychology, criminology, or sociology develops and enhances critical thinking, problem solving, and communication skills to prepare students for meaningful employment, further scholarship, sociocultural and international awareness, and civic involvement and engagement. In addition, the department promotes opportunities for undergraduate research and formal internships. Alumni will go on to graduate programs in criminology, sociology, or psychology and a wide variety of other areas. Other graduates find positions in their local community, particularly in the human services, criminal justice, education, business, and human resources areas.

## Programs

### Majors

- Criminology (B.A./B.S.)
- Psychology (B.A./B.S.)
- Psychology (B.A./B.S.) - Teaching Specialization
- Sociology (A.S.)
- Sociology (B.A./B.S.)
- Sociology (B.S.) - Teaching Specialization

### Minors

- Criminal Justice Minor
- Mental Health Services Minor
- Psychology Minor
- Social and Human Services Minor
- Sociology Minor
- Youth and Community Work Minor

### Graduate Programs*

- Community Development Certificate
- Native Communities and Economic Development Certificate
- Sociology (M.S.) - Community Development Specialization

* Graduate degrees are offered in collaboration with the Graduate School. For details, see the Graduate Catalog.

## Facilities & Services

The Sociology program also administers the Census Data Center, which provides businesses, organizations, news media, and local and county agencies with the latest census and rural life information.

## Student Support & Engagement Opportunities

Students can participate in a number of out-of-class activities such as clubs, associations, internships and events.

The School offers opportunities for student engagement through research, internships, and student organizations. The department sponsors two student organizations, the Psychology Club and Psi Chi, the International Honor Society in Psychology. The Psychology Club is open to any student and provides the opportunity to participate in community service, volunteer projects, and professional development as they learn about internship options, student research opportunities, and the graduate school preparation process. Psi Chi is open to qualified students, provides academic recognition, and seeks to nurture the spark of that accomplishment by offering a climate congenial to members' creative development.

# Online, Off-Campus, Distance & Non-Credit Programs


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South Dakota State University is committed to providing access to rich academic experiences which enhance the quality of life in South Dakota, the region, the nation, and the world. With that SDSU has a long tradition, and responsibility for, delivering education to citizens near and far through credit courses, non-credit professional development, short courses, and workshops at off-campus locations and online.

The Office of Continuing and Distance Education works to broaden the reach of SDSU, with a commitment to providing quality education no matter where students reside. The office serves students on campus and across the globe through a variety of fully online courses and programs. In addition to online education, the Office of Continuing and Distance Education coordinates the program offerings at off-campus locations in Aberdeen, Pierre, Rapid City, and Sioux Falls.

## Academic Credit Programs

Academic standards and policies governing off-campus and online courses are identical to the on-campus instructional program. Hence, credit course offerings, instruction and academic standards are the responsibilities of the Vice President for Academic Affairs, College Deans, Department Heads, and School Directors. There are outreach locations throughout South Dakota where credit courses are presented each semester and many courses are available through online education. Additional locations are added as needed.

### Off-Campus Centers

SDSU, in partnership with the other SD Board of Regents institutions, offers advising and support services, courses and programs at two off-campus centers across South Dakota: Black Hills State University – Rapid City and Community College for Sioux Falls. SDSU's College of Nursing provides academic programming in Aberdeen, Rapid City, and Sioux Falls and the College of Pharmacy and Allied Health Professions provides academic offerings in Rapid City and Sioux Falls. For more information regarding offerings at the off-campus centers and locations, please visit the Continuing and Distance Education website.

### Online Education

South Dakota State University offers undergraduate and graduate courses and programs online. SDSU offers Internet-based courses and programs for students needing a more flexible schedule, yet a rigorous and quality educational experience. Online courses are taught by the same SDSU faculty and are similar to on-campus courses in quality and rigor. Students receive the same credit for completing an online course as they would for an on-campus course. Based upon more than 80 years of effective off-campus education, SDSU is committed to serving:

- Working adults
- Part-time students
- Time- and place-bound individuals
- K-12 students, teachers and administrators
- Employees seeking career development skills
- Government and military personnel
- Persons with disabilities

For more information regarding SDSU's online education opportunities call toll free at 866-827-3198, or go to the Continuing and Distance Education website.

Students enrolling in online courses may incur additional costs associated with online learning; such as, but not limited to, test proctoring and technology (software/hardware).

### Summer Term

SDSU offers a wide range of courses on and off-campus to continue your studies during the summer months as well as numerous special workshops, short courses, distance education classes, evening offerings and non-credit programs. Summer programming is offered May through August and is characterized by innovation and responsiveness to your needs. Classes are comfortably sized, and time is available for individual attention from the faculty member. Participants need not be regularly matriculated at SDSU but may be admitted as non-degree seeking students.

### High School Dual Credit

Dual credit is an opportunity for high school students to enroll in college courses at South Dakota State University and earn credits toward their high school diploma while starting on their requirements for a degree from SDSU. Students are able to choose from a number of on-campus and online general education courses.

Benefits:

- accelerate your SDSU education
- lower tuition cost
- simplify the transition from high school

Students bringing in substantial credits may complete their degree in a condensed timeframe or may benefit in other ways as well. Students may find that with college credits already completed, their schedules will allow them to explore a variety of opportunities to enhance their college experience and academic career.

Dual credit students can more easily:

- add a second major
- add minors
- participate in a study abroad program
- complete undergraduate research
- complete an internship
- serve in a leadership role in student clubs/ organizations

These options can provide students with a well-rounded educational experience and a valuable advantage in succeeding in their future career.

**A large number of incoming credits does not in itself guarantee a shorter path to a degree!

## State Authorization

Colleges and universities who market to, recruit and offer educational activities to out-of-state students must understand and follow the laws and regulations set forth in those states. Authorization may be required for SDSU to serve and reach students in states outside of South Dakota. SDSU is determined to comply with all state regulations and will apply for authorization, when necessary, from those states where it conducts activities such as delivery of online courses, placement for field experiences (internships, clinicals, practicums, etc.) academic and athletic recruiting, marketing, etc.

SDSU participates in the National Council of State Authorization Reciprocity Agreement (NC-SARA). South Dakota became a SARA state in November, 2014 and SDSU became a SARA member institution in March, 2015. This membership provides SDSU the authorization to provide educational activities within other SARA

states without further authorization. Activities that are beyond the scope allowed through SARA may require individual state authorization. For further state authorization and complaint process information, please visit the Continuing and Distance Education website.

## Professional Licensure & Certification

South Dakota State University offers a variety of courses and programs online and is committed to providing a quality education to help you reach your professional goals. Some professions require certification or licensure to practice/work in the field; for instance, a student must hold a teacher certification to teach or a nurse must be licensed to work in a hospital. The curriculum for a number of degree programs at South Dakota State University have been designed to meet the licensure/certification requirements in South Dakota, and prepare students to sit for licensure exams in South Dakota. The various licensure boards in each state are responsible for setting requirements for licensure/certification in their state and distance students with intent of returning or moving to any state other than South Dakota should be aware of the unique requirements for that state.

Students seeking to establish licensure outside the state of South Dakota can find information pertaining to the licensure requirements in their state on the Continuing and Distance Education Professional Licensure and Certification website. You are encouraged to engage with an academic advisor prior to beginning any online academic program that would lead to licensure, to best understand the licensure program in your intended state of residence. Assistance will be provided to candidates by contacting the appropriate program advisor.

## Non-Credit Programs

The Office of Continuing and Distance Education provides opportunities for individuals to participate in professional development and personal enrichment activities throughout the year. The Office of Continuing and Distance Education provides opportunities for individuals to participate in professional development and personal enrichment activities throughout the year. Continuing and Distance Education can authorize Continuing Education Units (CEUs) and coordinate professional development workshops.

### Continuing Education Units

Today's workforce needs constant and current information to keep up-to-date with industry and association certifications. Continuing Education Units (CEUs) offer flexibility in delivery and fulfilling certification requirements. Contact the Office of Continuing and Distance Education at 605-688-4154 or e-mail to learn more about offering CEUs for your next workshop, short course, or conference.

### Professional & Continuing Education

SDSU Professional and Continuing Education is dedicated to building the workforce skill-sets needed for businesses to thrive in our evolving world. Our team of SDSU experts are committed to providing workshops and training programs for employees of businesses, non-profit organizations, and government agencies that center around relevant and essential skills that will increase the value of your employees to your business. Contact the Office of Continuing and Distance Education at 605-688-4154 or e-mail to learn more.

# Degrees & Associated Majors


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# Degree Definitions

## Associate Degree

An Associate of Arts (A.A.) degree is typically a two-year transfer degree that indicates the completion of a student's lower division general education requirements and forms the foundation for baccalaureate (e.g., bachelor's) degree programs (South Dakota Regental System minimum of 60 semester credits; exceptions to this number require Board of Regents approval per SDBOR Policy 2.29). Up to 16 credit hours at the 300 and 400 level may be required. More than 16 credit hours at the 300 and 400 level may be required if specified by an accrediting agency.

An Associate of Science (A.S.) degree is a terminal degree (South Dakota Regental System minimum of 60 semester credits; exceptions to this number require Board of Regents approval per Board Policy 2.29). However, it is transferable when a specific degree articulation agreement exists between a given A.S. degree and a specific baccalaureate degree (see SDBOR Policy 2:25:4B). Up to 16 credit hours at the 300 and 400 level may be required. More than 16 credit hours at the 300 and 400 level may be required if specified by an accrediting agency.

At South Dakota State University, the associate's degree programs are:

- Associate of Arts (A.A.)
- Associate of Science (A.S.)

## Bachelor's Degree

The bachelor's degree is awarded to a student by a university for satisfactory completion of a prescribed course of study ranging from 120-138 credits. It is verified by a diploma and transcript signifying a measure of achievement. The bachelor's degree enables a student to acquire a certain amount of general learning and to also become proficient in a particular field of study or a profession. The curricular structure of a bachelor's degree program includes a system general education core curriculum, institutional graduation requirements, support courses, major courses, and electives.

At South Dakota State University, the bachelor's degrees offered are:

- Bachelor of Arts (B.A.)
- Bachelor of Fine Arts (B.F.A.)
- Bachelor of General Studies (B.G.S.)
- Bachelor of Landscape Architecture (B.L.A.)
- Bachelor of Music Education (B.M.E.)
- Bachelor of Science (B.S.)
- Bachelor of Science in Education (B.S.E.)
- Bachelor of Science in Nursing (B.S.N.)

## Master's Degree

In broad terms, the master's degree indicates that the recipient has mastered a program of advanced, specialized study in a particular field. Normally, degree titles indicate one of two major categories. The first category, the Master of Arts (M.A.) and Master of Science (M.S.) degrees, provides an introduction to scholarship activities and research. These degrees often serve the needs of individuals teaching in public schools or community colleges and/or preparation for further graduate study. The second category leads to professional master's degrees, such as the Master of Education (M.Ed.) or Master of Business Administration (M.B.A.). Although similar to the M.A. and M.S., these programs tend to emphasize professional practice.

At South Dakota State University, the master's degrees offered are:

- Master of Architecture (M.Arch.)
- Master of Arts (M.A.)
- Master of Education (M.Ed.)
- Master of Engineering (M.Eng.)
- Master of Mass Communication (M.M.C.)
- Master of Public Health (M.P.H.)
- Master of Science (M.S.)

## Professional Doctoral Degree

The professional doctoral degree requires two or more years of professional study past the baccalaureate degree. This degree prepares an individual for entry into the practice of a recognized profession. Examples of professional doctorates are the M.D., Pharm.D., J.D., DVM, Ed.D., Au.D., and DPT degrees.

At South Dakota State University, the professional graduate degrees offered are:

- Doctor of Nursing Practice (D.N.P.)
- Doctor of Pharmacy (Pharm.D.)

## Doctor of Philosophy

Doctor of Philosophy (Ph.D.) program prepares a student to become a scholar; that is, to discover, integrate, and apply knowledge, as well as communicate and disseminate it. A well-prepared doctoral graduate develops the ability to understand and critically evaluate the literature of the field and to apply appropriate principles and procedures to the recognition, evaluation, interpretation, and understanding of issues and problems at the frontiers of knowledge. The doctoral graduate will also have an appropriate awareness of and commitment to the ethical practices appropriate to the field.

At South Dakota State University, the doctoral degrees offered are:

- Doctor of Philosophy (Ph.D.)

# Plans of Study within Degrees

## Major

An academic major or primary area of study within a degree program enables students to make in-depth inquiry into a discipline or a professional field of study. Majors consist of a specific set of goals and objectives achieved through a series of courses whose connections define an internal structure and whose sequence advances levels of knowledge and understanding. A major introduces students to a discipline or field of study and related areas through a foundation of theory and method. A major that

focuses on a specific discipline draws its courses predominantly from one department. A major that is interdisciplinary or encompasses a professional field of study usually obtains its courses from more than one department.

The number of credit hours required for a major and its organizational structure will vary, depending on whether it aims at disciplinary or professional preparation. Variations are due to the demands of accrediting agencies, certification requirements, professional competence, and expectations. Undergraduate majors require both discipline specific and support courses. Credits required for the major combine with general education core and electives to meet the total degree requirement.

### Minor

An academic minor enables a student to make an inquiry into a discipline or field of study beyond the major or to investigate a particular content theme. Minors provide a broad introduction to a subject and therefore develop only limited competency. Minors consist of a specific set of objectives achieved through a series of courses. Course offerings occur in a specific department or may draw from several departments (as in the case of a topical or thematic focus). In some cases, all coursework within a minor is proscribed; in others cases, a few courses may form the basis for a wide range of choices. Regental undergraduate minors typically consist of 18 credit hours.

Minors are only awarded in conjunction with completion of a degree program and the awarding of a bachelor's degree. Completion of the minor shall be indicated on the student's transcript.

### Specialization

A specialization is a designated plan of study within an existing degree program. It provides a student an alternative to the primary format of the major or it may be one of several tracks within a broad major. Specializations contain courses within the discipline(s) of the existing program. Specializations appear in the institutional catalog and on the student's transcript.

### Certificates

A certificate program is a sequence, pattern, or group of courses that focus upon an area of specialized knowledge or information with defined outcomes. In the Regental system certificates typically consist of 9-12 credit hours including prerequisites. Completion of a certificate appears on the student's transcripts.

### Emphasis

An emphasis is a concentration within a major and is accomplished by individual student choices within a plan of study. For example, within a major on adult health the student may focus on the older adult. An emphasis is not regarded as a separate program. It may be described in the catalog, but not detailed as a specific plan of study. It is not specified on a transcript.

## Programs Sorted Alphabetically

- Accounting Minor
- Advertising (B.A./B.S.)
- Advertising Minor
- Aerospace Engineering Minor
- Aerospace Studies Minor
- Agribusiness Marketing Minor
- Agricultural and Biosystems Engineering (B.S.)
- Agricultural and Environmental Law Certificate
- Agricultural Business (B.S.)
- Agricultural Business Minor
- Agricultural Education, Communication and Leadership (B.S.) - Agricultural Education Specialization
- Agricultural Education, Communication and Leadership (B.S.) - Communication Specialization
- Agricultural Education, Communication and Leadership (B.S.) - Leadership Specialization
- Agricultural Science (A.S.)
- Agricultural Science (B.S.)
- Agricultural Systems Technology (B.S.)
- Agronomy (B.S.)
- Agronomy Minor
- American Indian and Indigenous Studies (B.A.)
- American Indian and Indigenous Studies Minor
- Animal Health Minor
- Animal Science (B.S.) - Food Animal Health Specialization
- Animal Science (B.S.) - Industry Relations Specialization
- Animal Science (B.S.) - Production Management Specialization
- Animal Science (B.S.) - Science Specialization
- Animal Science Minor
- Animation Certificate
- Apparel and Fashion Studies Minor
- Architecture (B.F.A.)
- Art History Certificate
- Athletic Coaching Certification
- Aviation (B.S.) - Aviation Education Specialization
- Aviation (B.S.) - Aviation Maintenance Management Specialization
- Aviation Minor
- Biochemistry (B.S.)
- Biology (B.S.)
- Biology (B.S.) - Secondary Education Specialization
- Biology Minor
- Biomedical Engineering Minor
- Bioprocessing Sciences Certificate
- Bioprocessing Sciences Minor
- Biotechnology (B.S.)
- Botany Minor
- Business Economics (B.A./B.S.)
- Ceramics Certificate
- Chemistry (B.S.)
- Chemistry Education (B.S.)
- Chemistry Minor
- Civil Engineering (B.S.)
- Commodity Risk Management Minor
- Communication Studies (B.A./B.S.)
- Communication Studies (B.A./B.S.) - Speech Education Specialization
- Communication Studies Minor
- Community and Public Health (B.S.)
- Community and Regional Planning (B.S.)
- Computer Engineering Minor
- Computer Science (B.S.)
- Computer Science Minor
- Concrete Industry Management (B.S.)
- Conservation Planning and Park Management (B.S.)
- Conservation Planning and Park Management (B.S.) - Park Administration and Management Specialization
- Construction Management (B.S.)
- Construction Minor
- Construction Technology (A.S.)
- Consumer Affairs (B.S.) - Consumer Services Management Specialization
- Consumer Affairs (B.S.) - Family Financial Management Specialization
- Criminal Justice Minor
- Criminology (B.A./B.S.)
- Crop Protection Minor
- Dairy Industry Minor
- Dairy Manufacturing (B.S.)
- Dairy Manufacturing (B.S.) - Microbiology Specialization
- Dairy Production (B.S.)
- Dance Minor
- Data Science (A.S.)
- Data Science (B.S.)
- Data Science Minor
- Design Studies Minor
- Digital and Social Media Minor
- Early Childhood Education (B.S.) - Birth to 8 Specialization
- Early Childhood Education (B.S.) - Cooperative Elementary Education Program with DSU
- Early Childhood Education Kindergarten Education Endorsement
- Early Childhood Education Minor
- Early Childhood Special Education Endorsement
- Early Education and Care (B.S.)
- Ecology and Environmental Science (B.S.)
- Ecology and Environmental Science (B.S.) - Rangeland Ecology and Management Specialization
- Economics (B.A./B.S.)

- Economics (B.S.) - Agricultural Economics Specialization
- Economics Minor
- Education Curriculum for Teachers of Academic Subjects
- Electrical Engineering (B.S.)
- Electronics Engineering Technology (B.S.)
- Engineering for Precision Agriculture Minor
- Engineering Graphics Certificate
- Engineering Management Minor
- Engineering Technology (A.S.)
- English (B.A.)
- English (B.A.) - English Education Specialization
- English (B.A.) - Writing Specialization
- English Minor
- Entrepreneurial Studies (B.A./B.S.)
- Entrepreneurial Studies Minor
- Equine Studies Minor
- Events and Facilities Administration Minor
- Exercise Science (B.S.)
- Family and Consumer Sciences Education (B.S.)
- Fashion Studies and Retail Merchandising (B.S.)
- Film Studies Minor
- Financial Counseling Minor
- Food Safety Minor
- Food Science (B.S.)
- French Studies (B.A.)
- French Studies (B.A.) - Teaching Specialization
- French Studies Minor
- General Studies (A.A.)
- General Studies (B.G.S.)
- Geographic Information Sciences (B.S.)
- Geographic Information Sciences Certificate
- Geographic Information Sciences Minor
- Geography (B.A./B.S.)
- Geography Minor
- German (B.A.)
- German (B.A.) - Teaching Specialization
- German Minor
- Gerontology Minor
- Global Studies (B.A.)
- Global Studies Minor
- Graphic Design (B.F.A.)
- Graphic Design Certificate
- Graphic Design Minor
- Health Communication Minor
- Health Education Minor
- Health Science Minor
- Heavy-Highway Construction Minor
- History (B.A./B.S.)
- History (B.A./B.S.) - Teaching Specialization
- History Minor
- History of Art and Design Minor
- Honors College Distinction
- Horticulture (B.S.)
- Horticulture Minor
- Hospitality, Tourism, and Event Management (B.S.)
- Human Biology (B.S.)
- Human Development and Family Services (A.S.)
- Human Development and Family Studies (B.S.)
- Human Development and Family Studies Minor
- Human Resources Minor
- Informatics Minor
- Interdisciplinary Studies (B.A./B.S.)
- Interior Design (B.F.A.)
- Journalism (B.A./B.S.)
- Journalism Minor
- Land Valuation and Rural Real Estate Minor
- Landscape Architecture (B.L.A.)
- Leadership and Management of Nonprofit Organizations (B.S.)
- Leadership and Management of Nonprofit Organizations Minor
- Leadership Minor
- Legal Studies Minor
- Livestock and Animal Products Evaluation Certificate
- Management Minor
- Marketing Minor
- Mathematics (B.S.)
- Mathematics (B.S.) - Data Science Specialization
- Mathematics (B.S.) - Teaching Specialization
- Mathematics Minor
- Meat Science Minor
- Mechanical Engineering (B.S.)
- Mechanical Engineering (B.S.) - Aerospace Engineering Specialization
- Mechatronics Technology Minor
- Medical Laboratory Science (B.S.)
- Medical Laboratory Science (B.S.) - Accelerated Program
- Medical Laboratory Science (B.S.) - Upward Mobility Program
- Mental Health Services Minor
- Microbiology (B.S.)
- Microbiology Minor
- Military Science Minor
- Museum Studies Minor
- Music (B.A.) - Music Entrepreneurship Specialization
- Music (B.A.) - Music Studies Specialization
- Music Education (B.M.E.)
- Music Minor
- Natural Resource Law Enforcement (B.S.)
- New Product and Venture Development Certificate
- Nuclear Engineering Minor
- Nursing (B.S.N.)
- Nursing (B.S.N.) - Accelerated Program
- Nursing (B.S.N.) - RN to B.S.N.
- Nutrition and Dietetics (B.S.)
- Nutrition Minor
- Operations Management (B.S.)
- Painting Certificate
- Performing Arts Administration Minor
- Pharmaceutical Sciences (B.S.)/Pharmacy (Pharm.D.)
- Philosophy Minor
- Phlebotomy Certificate
- Physical Education Teacher Education (B.S.)
- Physics (B.S.)
- Physics (B.S.) - Science Teaching Specialization
- Physics Minor
- Political Science (B.A./B.S.)
- Political Science Minor
- Pre-Athletic Training
- Pre-Chiropractic
- Pre-Construction Planning Certificate
- Pre-Dental
- Pre-Law
- Pre-Medicine
- Pre-Ministerial
- Pre-Mortuary
- Pre-Occupational Therapy
- Pre-Optometry
- Pre-Physical Therapy
- Pre-Physician Assistant
- Pre-Veterinary Medicine
- Precision Agriculture (B.S.)
- Precision Agriculture Minor
- Printmaking Certificate
- Professional Writing Minor
- Psychology (B.A./B.S.)
- Psychology (B.A./B.S.) - Teaching Specialization
- Psychology Minor
- Public Relations (B.A./B.S.)
- Public Relations Minor
- Ranch Management Minor
- Rangeland Ecology and Management Minor
- Recreation Administration Minor
- Rehabilitation Services Minor
- Religion Minor
- Respiratory Care (A.S.)
- Respiratory Care (B.S.)
- Retail Merchandising Minor
- Sculpture Certificate
- Secondary Teacher Education - Certification Only
- Social and Human Services Minor
- Sociology (A.S.)
- Sociology (B.A./B.S.)
- Sociology (B.S.) - Teaching Specialization
- Sociology Minor
- Software Engineering Minor
- Soil Health Management Minor
- Soil Science Certification
- Spanish (B.A.)
- Spanish (B.A.) - Teaching Specialization
- Spanish Minor
- Sport and Recreation Management (B.S.)
- Statistics Minor
- Studio Art (B.F.A.) - Art Education Specialization
- Studio Art (B.F.A.) - Ceramics Specialization
- Studio Art (B.F.A.) - Painting Specialization
- Studio Art (B.F.A.) - Printmaking Specialization
- Studio Art (B.F.A.) - Sculpture Specialization
- Studio Arts Minor
- Sustainability Minor
- Sustainable Energy Systems Minor
- Sustainable Local Foods Minor
- Swine Science Certificate
- Theatre (B.A./B.S.)
- Theatre Minor
- Unmanned Aircraft Systems Certificate

- Wildlife and Fisheries Sciences (B.S.)
- Wizipan Leadership and Sustainability Certificate
- Women, Gender, and Sexuality Studies Minor
- Workplace Intercultural Competence Certificate
- Youth and Community Work Minor

## Programs Sorted by College

### College of Agriculture, Food & Environmental Sciences

**Associate of Science**

- Agricultural Science (A.S.)

**Bachelor of Science**

- Agricultural Business (B.S.)
- Agricultural Education, Communication and Leadership (B.S.) - Agricultural Education Specialization
- Agricultural Education, Communication and Leadership (B.S.) - Communication Specialization
- Agricultural Education, Communication and Leadership (B.S.) - Leadership Specialization
- Agricultural Science (B.S.)
- Agricultural Systems Technology (B.S.)
- Agronomy (B.S.)
- Animal Science (B.S.) - Food Animal Health Specialization
- Animal Science (B.S.) - Industry Relations Specialization
- Animal Science (B.S.) - Production Management Specialization
- Animal Science (B.S.) - Science Specialization
- Conservation Planning and Park Management (B.S.)
- Conservation Planning and Park Management (B.S.) - Park Administration and Management Specialization
- Dairy Manufacturing (B.S.)
- Dairy Manufacturing (B.S.) - Microbiology Specialization
- Dairy Production (B.S.)
- Ecology and Environmental Science (B.S.)
- Ecology and Environmental Science (B.S.) - Rangeland Ecology and Management Specialization
- Economics (B.S.) - Agricultural Economics Specialization
- Food Science (B.S.)
- Horticulture (B.S.)
- Natural Resource Law Enforcement (B.S.)
- Precision Agriculture (B.S.)
- Wildlife and Fisheries Sciences (B.S.)

**Certificate Programs**

- Agricultural and Environmental Law Certificate
- Bioprocessing Sciences Certificate
- Livestock and Animal Products Evaluation Certificate
- Swine Science Certificate
- Wizipan Leadership and Sustainability Certificate

**Certification Preparation**

- Soil Science Certification

**Minors**

- Agribusiness Marketing Minor
- Agricultural Business Minor
- Agronomy Minor
- Animal Health Minor
- Animal Science Minor
- Bioprocessing Sciences Minor
- Botany Minor
- Commodity Risk Management Minor
- Crop Protection Minor
- Dairy Industry Minor
- Equine Studies Minor
- Food Safety Minor
- Horticulture Minor
- Land Valuation and Rural Real Estate Minor
- Meat Science Minor
- Precision Agriculture Minor
- Ranch Management Minor
- Rangeland Ecology and Management Minor
- Soil Health Management Minor
- Sustainable Local Foods Minor

**Pre-Professional Interest Areas**

- Pre-Veterinary Medicine

### College of Arts, Humanities & Social Sciences

**Associate of Arts**

- General Studies (A.A.)

**Associate of Science**

- Sociology (A.S.)

**Bachelor of Arts**

- American Indian and Indigenous Studies (B.A.)
- English (B.A.)
- English (B.A.) - English Education Specialization
- English (B.A.) - Writing Specialization
- French Studies (B.A.)
- French Studies (B.A.) - Teaching Specialization
- German (B.A.)
- German (B.A.) - Teaching Specialization
- Global Studies (B.A.)
- Music (B.A.) - Music Entrepreneurship Specialization
- Music (B.A.) - Music Studies Specialization
- Spanish (B.A.)
- Spanish (B.A.) - Teaching Specialization

**Bachelor of Arts/Bachelor of Science**

- Advertising (B.A./B.S.)
- Business Economics (B.A./B.S.)
- Communication Studies (B.A./B.S.)
- Communication Studies (B.A./B.S.) - Speech Education Specialization
- Criminology (B.A./B.S.)
- Economics (B.A./B.S.)
- Entrepreneurial Studies (B.A./B.S.)
- History (B.A./B.S.)
- History (B.A./B.S.) - Teaching Specialization
- Interdisciplinary Studies (B.A./B.S.)
- Journalism (B.A./B.S.)
- Political Science (B.A./B.S.)
- Psychology (B.A./B.S.)
- Psychology (B.A./B.S.) - Teaching Specialization
- Public Relations (B.A./B.S.)
- Sociology (B.A./B.S.)
- Theatre (B.A./B.S.)

**Bachelor of Fine Arts**

- Architecture (B.F.A.)
- Graphic Design (B.F.A.)
- Interior Design (B.F.A.)
- Studio Art (B.F.A.) - Art Education Specialization
- Studio Art (B.F.A.) - Ceramics Specialization
- Studio Art (B.F.A.) - Painting Specialization
- Studio Art (B.F.A.) - Printmaking Specialization
- Studio Art (B.F.A.) - Sculpture Specialization

**Bachelor of General Studies**

- General Studies (B.G.S.)

**Bachelor of Landscape Architecture**

- Landscape Architecture (B.L.A.)

**Bachelor of Music Education**

- Music Education (B.M.E.)

**Bachelor of Science**

- Sociology (B.S.) - Teaching Specialization

**Certificate Programs**

- Animation Certificate
- Art History Certificate
- Ceramics Certificate
- Graphic Design Certificate
- New Product and Venture Development Certificate
- Painting Certificate
- Printmaking Certificate
- Sculpture Certificate
- Workplace Intercultural Competence Certificate

**Minors**

- Accounting Minor
- Advertising Minor
- Aerospace Studies Minor
- American Indian and Indigenous Studies Minor
- Communication Studies Minor
- Criminal Justice Minor
- Dance Minor
- Design Studies Minor
- Digital and Social Media Minor
- Economics Minor
- English Minor
- Entrepreneurial Studies Minor
- Film Studies Minor
- French Studies Minor
- German Minor
- Global Studies Minor
- Graphic Design Minor
- Health Communication Minor
- History Minor
- History of Art and Design Minor
- Human Resources Minor
- Journalism Minor
- Legal Studies Minor
- Management Minor
- Marketing Minor
- Mental Health Services Minor
- Military Science Minor

- Museum Studies Minor
- Music Minor
- Performing Arts Administration Minor
- Philosophy Minor
- Political Science Minor
- Professional Writing Minor
- Psychology Minor
- Public Relations Minor
- Religion Minor
- Social and Human Services Minor
- Sociology Minor
- Spanish Minor
- Studio Arts Minor
- Theatre Minor
- Women, Gender, and Sexuality Studies Minor
- Youth and Community Work Minor

### Pre-Professional Interest Areas

- Pre-Law
- Pre-Ministerial

## College of Education & Human Sciences

### Associate of Science

- Human Development and Family Services (A.S.)

### Bachelor of Science

- Aviation (B.S.) - Aviation Education Specialization
- Aviation (B.S.) - Aviation Maintenance Management Specialization
- Community and Public Health (B.S.)
- Consumer Affairs (B.S.) - Consumer Services Management Specialization
- Consumer Affairs (B.S.) - Family Financial Management Specialization
- Early Childhood Education (B.S.) - Birth to 8 Specialization
- Early Childhood Education (B.S.) - Cooperative Elementary Education Program with DSU
- Early Education and Care (B.S.)
- Exercise Science (B.S.)
- Family and Consumer Sciences Education (B.S.)
- Fashion Studies and Retail Merchandising (B.S.)
- Hospitality, Tourism, and Event Management (B.S.)
- Human Development and Family Studies (B.S.)
- Leadership and Management of Nonprofit Organizations (B.S.)
- Nutrition and Dietetics (B.S.)
- Physical Education Teacher Education (B.S.)
- Sport and Recreation Management (B.S.)

### Certification Preparation

- Athletic Coaching Certification
- Education Curriculum for Teachers of Academic Subjects
- Secondary Teacher Education - Certification Only

### Endorsements

- Early Childhood Education Kindergarten Education Endorsement
- Early Childhood Special Education Endorsement

### Minors

- Apparel and Fashion Studies Minor
- Aviation Minor
- Early Childhood Education Minor
- Events and Facilities Administration Minor
- Financial Counseling Minor
- Gerontology Minor
- Health Education Minor
- Human Development and Family Studies Minor
- Leadership and Management of Nonprofit Organizations Minor
- Leadership Minor
- Nutrition Minor
- Recreation Administration Minor
- Rehabilitation Services Minor
- Retail Merchandising Minor

### Pre-Professional Interest Areas

- Pre-Athletic Training
- Pre-Occupational Therapy
- Pre-Physical Therapy

## College of Natural Sciences

### Bachelor of Arts/Bachelor of Science

- Geography (B.A./B.S.)

### Bachelor of Science

- Biochemistry (B.S.)
- Biology (B.S.)
- Biology (B.S.) - Secondary Education Specialization
- Biotechnology (B.S.)
- Chemistry (B.S.)
- Chemistry Education (B.S.)
- Community and Regional Planning (B.S.)
- Geographic Information Sciences (B.S.)
- Human Biology (B.S.)
- Microbiology (B.S.)
- Physics (B.S.)
- Physics (B.S.) - Science Teaching Specialization

### Certificate Programs

- Geographic Information Sciences Certificate
- Unmanned Aircraft Systems Certificate

### Minors

- Biology Minor
- Chemistry Minor
- Geographic Information Sciences Minor
- Geography Minor
- Microbiology Minor
- Nuclear Engineering Minor
- Physics Minor
- Sustainability Minor

### Pre-Professional Interest Areas

- Pre-Chiropractic
- Pre-Dental
- Pre-Medicine
- Pre-Mortuary
- Pre-Optometry
- Pre-Physician Assistant

## College of Nursing

### Bachelor of Science in Nursing

- Nursing (B.S.N.)
- Nursing (B.S.N.) - Accelerated Program
- Nursing (B.S.N.) - RN to B.S.N.

### Minors

- Health Science Minor

## College of Pharmacy & Allied Health Professions

### Associate of Science

- Respiratory Care (A.S.)

### Bachelor of Science

- Medical Laboratory Science (B.S.)
- Medical Laboratory Science (B.S.) - Accelerated Program
- Medical Laboratory Science (B.S.) - Upward Mobility Program
- Respiratory Care (B.S.)

### Bachelor of Science/Doctor of Pharmacy

- Pharmaceutical Sciences (B.S.)/Pharmacy (Pharm.D.)

### Certificate Programs

- Phlebotomy Certificate

## Jerome J. Lohr College of Engineering

### Associate of Science

- Construction Technology (A.S.)
- Data Science (A.S.)
- Engineering Technology (A.S.)

### Bachelor of Science

- Agricultural and Biosystems Engineering (B.S.)
- Civil Engineering (B.S.)
- Computer Science (B.S.)
- Concrete Industry Management (B.S.)
- Construction Management (B.S.)
- Data Science (B.S.)
- Electrical Engineering (B.S.)
- Electronics Engineering Technology (B.S.)
- Mathematics (B.S.)
- Mathematics (B.S.) - Data Science Specialization
- Mathematics (B.S.) - Teaching Specialization
- Mechanical Engineering (B.S.)
- Mechanical Engineering (B.S.) - Aerospace Engineering Specialization
- Operations Management (B.S.)

### Certificate Programs

- Engineering Graphics Certificate
- Pre-Construction Planning Certificate

### Minors

- Aerospace Engineering Minor
- Biomedical Engineering Minor
- Computer Engineering Minor
- Computer Science Minor
- Construction Minor
- Data Science Minor
- Engineering for Precision Agriculture Minor
- Engineering Management Minor
- Heavy-Highway Construction Minor
- Informatics Minor
- Mathematics Minor
- Mechatronics Technology Minor
- Software Engineering Minor
- Statistics Minor
- Sustainable Energy Systems Minor

## Van D. & Barbara B. Fishback Honors College

### Distinction

- Honors College Distinction

## Programs Sorted by Department

### College of Agriculture, Food & Environmental Sciences

- Agricultural Education, Communication and Leadership (B.S.) - Agricultural Education Specialization
  Agricultural Education, Communication and Leadership (B.S.) - Communication Specialization
  Agricultural Education, Communication and Leadership (B.S.) - Leadership Specialization
  Agricultural Science (A.S.)
  Agricultural Science (B.S.)
  Bioprocessing Sciences Certificate
  Bioprocessing Sciences Minor

### College of Arts, Humanities & Social Sciences

- General Studies (A.A.)
  General Studies (B.G.S.)
  Museum Studies Minor
  Women, Gender, and Sexuality Studies Minor

### College of Pharmacy & Allied Health Professions

- Pharmaceutical Sciences (B.S.)/Pharmacy (Pharm.D.)

### Jerome J. Lohr College of Engineering

- Biomedical Engineering Minor

### Department of Aerospace Studies

- Aerospace Studies Minor

### Department of Agricultural & Biosystems Engineering

- Agricultural Systems Technology (B.S.)
- Precision Agriculture (B.S.)
- Precision Agriculture Minor
- Agricultural and Biosystems Engineering (B.S.)
- Engineering for Precision Agriculture Minor

### Department of Agronomy, Horticulture, & Plant Science

- Agronomy (B.S.)
- Agronomy Minor
- Crop Protection Minor
- Horticulture (B.S.)
- Horticulture Minor
- Precision Agriculture (B.S.)
- Precision Agriculture Minor
- Soil Health Management Minor
- Soil Science Certification
- Sustainable Local Foods Minor

### Department of Allied & Population Health

- Medical Laboratory Science (B.S.)
- Medical Laboratory Science (B.S.) - Accelerated Program
- Medical Laboratory Science (B.S.) - Upward Mobility Program
- Phlebotomy Certificate
- Respiratory Care (A.S.)
- Respiratory Care (B.S.)

### Department of Animal Science

- Animal Science (B.S.) - Food Animal Health Specialization
- Animal Science (B.S.) - Industry Relations Specialization
- Animal Science (B.S.) - Production Management Specialization
- Animal Science (B.S.) - Science Specialization
- Animal Science Minor
- Equine Studies Minor
- Livestock and Animal Products Evaluation Certificate
- Meat Science Minor
- Ranch Management Minor
- Swine Science Certificate

### Department of Architecture

- Architecture (B.F.A.)

### Department of Biology & Microbiology

- Biology (B.S.)
- Biology (B.S.) - Secondary Education Specialization
- Biology Minor
- Biotechnology (B.S.)
- Human Biology (B.S.)
- Microbiology (B.S.)
- Microbiology Minor
- Pre-Chiropractic
- Pre-Dental
- Pre-Medicine
- Pre-Mortuary
- Pre-Optometry
- Pre-Physician Assistant

### Department of Chemistry & Biochemistry

- Biochemistry (B.S.)
- Chemistry (B.S.)
- Chemistry Education (B.S.)
- Chemistry Minor

### Department of Civil & Environmental Engineering

- Civil Engineering (B.S.)

### Department of Construction & Operations Management

- Concrete Industry Management (B.S.)
- Construction Management (B.S.)
- Construction Minor
- Construction Technology (A.S.)
- Electronics Engineering Technology (B.S.)
- Engineering Graphics Certificate
- Engineering Management Minor
- Engineering Technology (A.S.)
- Heavy-Highway Construction Minor
- Mechatronics Technology Minor
- Operations Management (B.S.)
- Pre-Construction Planning Certificate

### Department of Dairy & Food Science

- Dairy Industry Minor
- Dairy Manufacturing (B.S.)
- Dairy Manufacturing (B.S.) - Microbiology Specialization
- Dairy Production (B.S.)
- Food Safety Minor
- Food Science (B.S.)

### Department of Electrical Engineering & Computer Science

- Computer Engineering Minor
- Computer Science (B.S.)
- Computer Science Minor
- Electrical Engineering (B.S.)
- Informatics Minor
- Software Engineering Minor

### Department of English & Interdisciplinary Studies

- English (B.A.)
- English (B.A.) - English Education Specialization
- English (B.A.) - Writing Specialization
- English Minor
- Interdisciplinary Studies (B.A./B.S.)
- Professional Writing Minor

### Department of Geography & Geospatial Sciences

- Community and Regional Planning (B.S.)
- Geographic Information Sciences (B.S.)
- Geographic Information Sciences Certificate
- Geographic Information Sciences Minor
- Geography (B.A./B.S.)
- Geography Minor
- Sustainability Minor
- Unmanned Aircraft Systems Certificate

### Department of Mathematics & Statistics

- Data Science (A.S.)
- Data Science (B.S.)
- Data Science Minor
- Mathematics (B.S.)
- Mathematics (B.S.) - Data Science Specialization
- Mathematics (B.S.) - Teaching Specialization
- Mathematics Minor
- Statistics Minor

### Department of Mechanical Engineering

- Aerospace Engineering Minor
- Biomedical Engineering Minor
- Mechanical Engineering (B.S.)
- Mechanical Engineering (B.S.) - Aerospace Engineering Specialization
- Sustainable Energy Systems Minor

### Department of Military Science

- Military Science Minor

### Department of Natural Resource Management

- Botany Minor
- Conservation Planning and Park Management (B.S.)
- Conservation Planning and Park Management (B.S.) - Park Administration and Management Specialization
- Ecology and Environmental Science (B.S.)
- Ecology and Environmental Science (B.S.) - Rangeland Ecology and Management Specialization
- Natural Resource Law Enforcement (B.S.)
- Rangeland Ecology and Management Minor

- Wildlife and Fisheries Sciences (B.S.)

### Department of Pharmaceutical Sciences

### Department of Pharmacy Practice

### Department of Physics

- Nuclear Engineering Minor
- Physics (B.S.)
- Physics (B.S.) - Science Teaching Specialization
- Physics Minor

### Department of Undergraduate Nursing

- Health Science Minor
- Nursing (B.S.N.)
- Nursing (B.S.N.) - Accelerated Program
- Nursing (B.S.N.) - RN to B.S.N.

### Department of Veterinary & Biomedical Sciences

- Animal Health Minor
- Pre-Veterinary Medicine

### Ness School of Management & Economics

- Accounting Minor
- Business Economics (B.A./B.S.)
- Economics (B.A./B.S.)
- Economics Minor
- Entrepreneurial Studies (B.A./B.S.)
- Entrepreneurial Studies Minor
- Human Resources Minor
- Management Minor
- Marketing Minor
- New Product and Venture Development Certificate

### Ness School of Management and Economics

- Agribusiness Marketing Minor
- Agricultural and Environmental Law Certificate
- Agricultural Business (B.S.)
- Agricultural Business Minor
- Commodity Risk Management Minor
- Economics (B.S.) - Agricultural Economics Specialization
- Land Valuation and Rural Real Estate Minor

### School of American & Global Studies

- American Indian and Indigenous Studies (B.A.)
- American Indian and Indigenous Studies Minor
- French Studies (B.A.)
- French Studies (B.A.) - Teaching Specialization
- French Studies Minor
- German (B.A.)
- German (B.A.) - Teaching Specialization
- German Minor
- Global Studies (B.A.)
- Global Studies Minor
- History (B.A./B.S.)
- History (B.A./B.S.) - Teaching Specialization
- History Minor
- Legal Studies Minor
- Philosophy Minor
- Political Science (B.A./B.S.)
- Political Science Minor
- Pre-Law
- Pre-Ministerial
- Religion Minor
- Spanish (B.A.)
- Spanish (B.A.) - Teaching Specialization
- Spanish Minor
- Workplace Intercultural Competence Certificate

### School of Communication & Journalism

- Advertising (B.A./B.S.)
- Advertising Minor
- Communication Studies (B.A./B.S.)
- Communication Studies (B.A./B.S.) - Speech Education Specialization
- Communication Studies Minor
- Digital and Social Media Minor
- Health Communication Minor
- Journalism (B.A./B.S.)
- Journalism Minor
- Public Relations (B.A./B.S.)
- Public Relations Minor

### School of Design

- Animation Certificate
- Architecture (B.F.A.)
- Art History Certificate
- Ceramics Certificate
- Design Studies Minor
- Film Studies Minor
- Graphic Design (B.F.A.)
- Graphic Design Certificate
- Graphic Design Minor
- History of Art and Design Minor
- Interior Design (B.F.A.)
- Landscape Architecture (B.L.A.)
- Painting Certificate
- Printmaking Certificate
- Sculpture Certificate
- Studio Art (B.F.A.) - Art Education Specialization
- Studio Art (B.F.A.) - Ceramics Specialization
- Studio Art (B.F.A.) - Painting Specialization
- Studio Art (B.F.A.) - Printmaking Specialization
- Studio Art (B.F.A.) - Sculpture Specialization
- Studio Arts Minor

### School of Education, Counseling & Human Development

- Early Childhood Education (B.S.) - Birth to 8 Specialization
- Early Childhood Education (B.S.) - Cooperative Elementary Education Program with DSU
- Early Childhood Education Kindergarten Education Endorsement
- Early Childhood Education Minor
- Early Childhood Special Education Endorsement
- Early Education and Care (B.S.)
- Education Curriculum for Teachers of Academic Subjects
- Family and Consumer Sciences Education (B.S.)
- Gerontology Minor
- Human Development and Family Services (A.S.)
- Human Development and Family Studies (B.S.)
- Human Development and Family Studies Minor
- Rehabilitation Services Minor
- Secondary Teacher Education - Certification Only

### School of Health & Consumer Sciences

- Apparel and Fashion Studies Minor
- Athletic Coaching Certification
- Aviation (B.S.) - Aviation Education Specialization
- Aviation (B.S.) - Aviation Maintenance Management Specialization
- Aviation Minor
- Community and Public Health (B.S.)
- Consumer Affairs (B.S.) - Consumer Services Management Specialization
- Consumer Affairs (B.S.) - Family Financial Management Specialization
- Events and Facilities Administration Minor
- Exercise Science (B.S.)
- Fashion Studies and Retail Merchandising (B.S.)
- Financial Counseling Minor
- Health Education Minor
- Hospitality, Tourism, and Event Management (B.S.)
- Leadership and Management of Nonprofit Organizations (B.S.)
- Leadership and Management of Nonprofit Organizations Minor
- Leadership Minor
- Nutrition and Dietetics (B.S.)
- Nutrition Minor
- Physical Education Teacher Education (B.S.)
- Pre-Athletic Training
- Pre-Occupational Therapy
- Pre-Physical Therapy
- Recreation Administration Minor
- Retail Merchandising Minor
- Sport and Recreation Management (B.S.)

### School of Performing Arts

- Dance Minor
- Music (B.A.) - Music Entrepreneurship Specialization
- Music (B.A.) - Music Studies Specialization
- Music Education (B.M.E.)
- Music Minor
- Performing Arts Administration Minor
- Theatre (B.A./B.S.)
- Theatre Minor

### School of Psychology, Sociology & Rural Studies

- Criminal Justice Minor
- Criminology (B.A./B.S.)
- Mental Health Services Minor
- Psychology (B.A./B.S.)
- Psychology (B.A./B.S.) - Teaching Specialization
- Psychology Minor
- Social and Human Services Minor
- Sociology (A.S.)
- Sociology (B.A./B.S.)
- Sociology (B.S.) - Teaching Specialization
- Sociology Minor
- Youth and Community Work Minor

## Programs Sorted by General Degree Type

### Associate of Arts
- General Studies (A.A.)

### Associate of Science
- Agricultural Science (A.S.)
- Construction Technology (A.S.)
- Data Science (A.S.)
- Engineering Technology (A.S.)
- Human Development and Family Services (A.S.)
- Respiratory Care (A.S.)
- Sociology (A.S.)

### Bachelor of Arts
- American Indian and Indigenous Studies (B.A.)
- English (B.A.)
- English (B.A.) - English Education Specialization
- English (B.A.) - Writing Specialization
- French Studies (B.A.)
- French Studies (B.A.) - Teaching Specialization
- German (B.A.)
- German (B.A.) - Teaching Specialization
- Global Studies (B.A.)
- Music (B.A.) - Music Entrepreneurship Specialization
- Music (B.A.) - Music Studies Specialization
- Spanish (B.A.)
- Spanish (B.A.) - Teaching Specialization

### Bachelor of Arts/Bachelor of Science
- Advertising (B.A./B.S.)
- Business Economics (B.A./B.S.)
- Communication Studies (B.A./B.S.)
- Communication Studies (B.A./B.S.) - Speech Education Specialization
- Criminology (B.A./B.S.)
- Economics (B.A./B.S.)
- Entrepreneurial Studies (B.A./B.S.)
- Geography (B.A./B.S.)
- History (B.A./B.S.)
- History (B.A./B.S.) - Teaching Specialization
- Interdisciplinary Studies (B.A./B.S.)
- Journalism (B.A./B.S.)
- Political Science (B.A./B.S.)
- Psychology (B.A./B.S.)
- Psychology (B.A./B.S.) - Teaching Specialization
- Public Relations (B.A./B.S.)
- Sociology (B.A./B.S.)
- Theatre (B.A./B.S.)

### Bachelor of Fine Arts
- Architecture (B.F.A.)
- Graphic Design (B.F.A.)
- Interior Design (B.F.A.)
- Studio Art (B.F.A.) - Art Education Specialization
- Studio Art (B.F.A.) - Ceramics Specialization
- Studio Art (B.F.A.) - Painting Specialization
- Studio Art (B.F.A.) - Printmaking Specialization
- Studio Art (B.F.A.) - Sculpture Specialization

### Bachelor of General Studies
- General Studies (B.G.S.)

### Bachelor of Landscape Architecture
- Landscape Architecture (B.L.A.)

### Bachelor of Music Education
- Music Education (B.M.E.)

### Bachelor of Science
- Agricultural and Biosystems Engineering (B.S.)
- Agricultural Business (B.S.)
- Agricultural Education, Communication and Leadership (B.S.) - Agricultural Education Specialization
- Agricultural Education, Communication and Leadership (B.S.) - Communication Specialization
- Agricultural Education, Communication and Leadership (B.S.) - Leadership Specialization
- Agricultural Science (B.S.)
- Agricultural Systems Technology (B.S.)
- Agronomy (B.S.)
- Animal Science (B.S.) - Food Animal Health Specialization
- Animal Science (B.S.) - Industry Relations Specialization
- Animal Science (B.S.) - Production Management Specialization
- Animal Science (B.S.) - Science Specialization
- Aviation (B.S.) - Aviation Education Specialization
- Aviation (B.S.) - Aviation Maintenance Management Specialization
- Biochemistry (B.S.)
- Biology (B.S.)
- Biology (B.S.) - Secondary Education Specialization
- Biotechnology (B.S.)
- Chemistry (B.S.)
- Chemistry Education (B.S.)
- Civil Engineering (B.S.)
- Community and Public Health (B.S.)
- Community and Regional Planning (B.S.)
- Computer Science (B.S.)
- Concrete Industry Management (B.S.)
- Conservation Planning and Park Management (B.S.)
- Conservation Planning and Park Management (B.S.) - Park Administration and Management Specialization
- Construction Management (B.S.)
- Consumer Affairs (B.S.) - Consumer Services Management Specialization
- Consumer Affairs (B.S.) - Family Financial Management Specialization
- Dairy Manufacturing (B.S.)
- Dairy Manufacturing (B.S.) - Microbiology Specialization
- Dairy Production (B.S.)
- Data Science (B.S.)
- Early Childhood Education (B.S.) - Birth to 8 Specialization
- Early Childhood Education (B.S.) - Cooperative Elementary Education Program with DSU
- Early Education and Care (B.S.)
- Ecology and Environmental Science (B.S.)
- Ecology and Environmental Science (B.S.) - Rangeland Ecology and Management Specialization
- Economics (B.S.) - Agricultural Economics Specialization
- Electrical Engineering (B.S.)
- Electronics Engineering Technology (B.S.)
- Exercise Science (B.S.)
- Family and Consumer Sciences Education (B.S.)
- Fashion Studies and Retail Merchandising (B.S.)
- Food Science (B.S.)
- Geographic Information Sciences (B.S.)
- Horticulture (B.S.)
- Hospitality, Tourism, and Event Management (B.S.)
- Human Biology (B.S.)
- Human Development and Family Studies (B.S.)
- Leadership and Management of Nonprofit Organizations (B.S.)
- Mathematics (B.S.)
- Mathematics (B.S.) - Data Science Specialization
- Mathematics (B.S.) - Teaching Specialization
- Mechanical Engineering (B.S.)
- Mechanical Engineering (B.S.) - Aerospace Engineering Specialization
- Medical Laboratory Science (B.S.)
- Medical Laboratory Science (B.S.) - Accelerated Program
- Medical Laboratory Science (B.S.) - Upward Mobility Program
- Microbiology (B.S.)
- Natural Resource Law Enforcement (B.S.)
- Nutrition and Dietetics (B.S.)
- Operations Management (B.S.)
- Physical Education Teacher Education (B.S.)
- Physics (B.S.)
- Physics (B.S.) - Science Teaching Specialization
- Precision Agriculture (B.S.)
- Respiratory Care (B.S.)
- Sociology (B.S.) - Teaching Specialization
- Sport and Recreation Management (B.S.)
- Wildlife and Fisheries Sciences (B.S.)

### Bachelor of Science in Nursing
- Nursing (B.S.N.)
- Nursing (B.S.N.) - Accelerated Program
- Nursing (B.S.N.) - RN to B.S.N.

### Bachelor of Science/Doctor of Pharmacy
- Pharmaceutical Sciences (B.S.)/Pharmacy (Pharm.D.)

### Certificate Programs
- Agricultural and Environmental Law Certificate
- Animation Certificate
- Art History Certificate
- Bioprocessing Sciences Certificate
- Ceramics Certificate
- Engineering Graphics Certificate
- Geographic Information Sciences Certificate
- Graphic Design Certificate
- Livestock and Animal Products Evaluation Certificate

- New Product and Venture Development Certificate
- Painting Certificate
- Phlebotomy Certificate
- Pre-Construction Planning Certificate
- Printmaking Certificate
- Sculpture Certificate
- Swine Science Certificate
- Unmanned Aircraft Systems Certificate
- Wizipan Leadership and Sustainability Certificate
- Workplace Intercultural Competence Certificate

### Certification Preparation

- Athletic Coaching Certification
- Education Curriculum for Teachers of Academic Subjects
- Secondary Teacher Education - Certification Only
- Soil Science Certification

### Distinction

- Honors College Distinction

### Endorsements

- Early Childhood Education Kindergarten Education Endorsement
- Early Childhood Special Education Endorsement

### Minors

- Accounting Minor
- Advertising Minor
- Aerospace Engineering Minor
- Aerospace Studies Minor
- Agribusiness Marketing Minor
- Agricultural Business Minor
- Agronomy Minor
- American Indian and Indigenous Studies Minor
- Animal Health Minor
- Animal Science Minor
- Apparel and Fashion Studies Minor
- Aviation Minor
- Biology Minor
- Biomedical Engineering Minor
- Bioprocessing Sciences Minor
- Botany Minor
- Chemistry Minor
- Commodity Risk Management Minor
- Communication Studies Minor
- Computer Engineering Minor
- Computer Science Minor
- Construction Minor
- Criminal Justice Minor
- Crop Protection Minor
- Dairy Industry Minor
- Dance Minor
- Data Science Minor
- Design Studies Minor
- Digital and Social Media Minor
- Early Childhood Education Minor
- Economics Minor
- Engineering for Precision Agriculture Minor
- Engineering Management Minor
- English Minor
- Entrepreneurial Studies Minor
- Equine Studies Minor
- Events and Facilities Administration Minor
- Film Studies Minor
- Financial Counseling Minor
- Food Safety Minor
- French Studies Minor
- Geographic Information Sciences Minor
- Geography Minor
- German Minor
- Gerontology Minor
- Global Studies Minor
- Graphic Design Minor
- Health Communication Minor
- Health Education Minor
- Health Science Minor
- Heavy-Highway Construction Minor
- History Minor
- History of Art and Design Minor
- Horticulture Minor
- Human Development and Family Studies Minor
- Human Resources Minor
- Informatics Minor
- Journalism Minor
- Land Valuation and Rural Real Estate Minor
- Leadership and Management of Nonprofit Organizations Minor
- Leadership Minor
- Legal Studies Minor
- Management Minor
- Marketing Minor
- Mathematics Minor
- Meat Science Minor
- Mechatronics Technology Minor
- Mental Health Services Minor
- Microbiology Minor
- Military Science Minor
- Museum Studies Minor
- Music Minor
- Nuclear Engineering Minor
- Nutrition Minor
- Performing Arts Administration Minor
- Philosophy Minor
- Physics Minor
- Political Science Minor
- Precision Agriculture Minor
- Professional Writing Minor
- Psychology Minor
- Public Relations Minor
- Ranch Management Minor
- Rangeland Ecology and Management Minor
- Recreation Administration Minor
- Rehabilitation Services Minor
- Religion Minor
- Retail Merchandising Minor
- Social and Human Services Minor
- Sociology Minor
- Software Engineering Minor
- Soil Health Management Minor
- Spanish Minor
- Statistics Minor
- Studio Arts Minor
- Sustainability Minor
- Sustainable Energy Systems Minor
- Sustainable Local Foods Minor
- Theatre Minor
- Women, Gender, and Sexuality Studies Minor
- Youth and Community Work Minor

### Pre-Professional Interest Areas

- Pre-Athletic Training
- Pre-Chiropractic
- Pre-Dental
- Pre-Law
- Pre-Medicine
- Pre-Ministerial
- Pre-Mortuary
- Pre-Occupational Therapy
- Pre-Optometry
- Pre-Physical Therapy
- Pre-Physician Assistant
- Pre-Veterinary Medicine

## Programs offered Online & at Off-Campus Locations

### Online Programs

**Associate Degrees**

- Agricultural Science (A.S.)
- Construction Technology (A.S.)
- Data Science (A.S.)
- General Studies (A.A.)
- Sociology (A.S.)

**Bachelor's Degrees**

- Early Education and Care (B.S.)
- General Studies (B.G.S.)
- Geographic Information Sciences (B.S.)
- Geography (B.A./B.S.)
- Human Development and Family Studies (B.S.)
- Interdisciplinary Studies (B.A./B.S.)
- Medical Laboratory Science (B.S.) - Upward Mobility Program
- Nursing (B.S.N.) - RN to B.S.N.
- Psychology (B.A./B.S.)
- Sociology (B.S.)

**Minors**

- Criminal Justice Minor
- Early Childhood Education Minor
- Engineering Management Minor
- Geographic Information Sciences Minor
- Geography Minor
- Gerontology Minor
- Health Communication Minor
- History Minor
- Human Development and Family Studies Minor
- Human Resources Minor
- Mental Health Services Minor
- Psychology Minor
- Rehabilitation Services Minor
- Social and Human Services Minor
- Sociology Minor
- Spanish Minor

- Youth and Community Work Minor

**Certificate Programs**

- Agricultural and Environmental Law Certificate
- Geographic Information Sciences Certificate
- New Product and Venture Development Certificate
- Phlebotomy Certificate
- Pre-Construction Planning Certificate
- Swine Science Certificate
- Workplace Intercultural Competence Certificate

### Aberdeen

**Bachelor's Degrees**

- Nursing (B.S.N.) - Accelerated Program

### Crazy Horse

**Certificate Programs**

- Wizipan Leadership and Sustainability Certificate

### Pierre

**Associate Degrees**

- General Studies (A.A.)

**Bachelor's Degrees**

- General Studies (B.G.S.)
- Interdisciplinary Studies (B.A./B.S.)

### Rapid City

**Associate Degrees**

- Agricultural Science (A.S.)
- General Studies (A.A.)
- Respiratory Care (A.S.)

**Bachelor's Degrees**

- General Studies (B.G.S.)
- Interdisciplinary Studies (B.A./B.S.)
- Nursing (B.S.N.)
- Nursing (B.S.N.) - Accelerated Program
- Respiratory Care (B.S.)

### Sioux Falls

**Associate Degrees**

- Agricultural Science (A.S.)
- Human Development and Family Services (A.S.)
- Respiratory Care (A.S.)

**Bachelor's Degrees**

- Human Development and Family Studies (B.S.)
- Nursing (B.S.N.)
- Nursing (B.S.N.) - Accelerated Program
- Respiratory Care (B.S.)

**Certificate Programs**

- Geographic Information Sciences Certificate

### Watertown

**Associate Degrees**

- Agricultural Science (A.S.)

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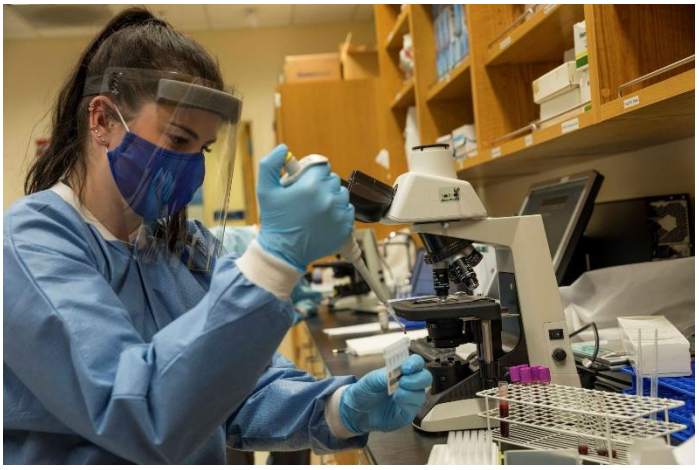

# Academic Programs


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# Certificate Programs

## Agricultural & Environmental Law Certificate

### Program Coordinator/Contact

GPIDEA Coordinator
Continuing and Distance Education
West Hall 122, Box 510
605-688-4154

### Program Information

The Agricultural and Environmental Law certificate program expands the opportunity for degree-seeking students as well as life-long learners to enhance the knowledge of law, emerging legal issues focusing on agriculture, rural communities, and the food industry. The certificate addresses legal concepts pertaining to water quality, land-use and other environmental concerns. Additionally, students gain an appreciation of the challenges created by an expanding population on food production and renewable energy resources.

### Student Learning Outcomes

Students earning a certificate in Agricultural and Environmental Law will have the ability to:

- recognize, identify, and understand legal issues in agricultural and environmental law.
- communicate effectively in written format as an individual and as a team member.
- identify, research, and apply credible legal resources appropriate for agribusiness law and policy and environmental law and policy.
- reinforce analytical/critical thinking skills applicable to business or environmental policy related to the law.

### Course Delivery Format

Coursework is provided online through the GPIDEA program, a collaborative, multi-institutional consortium. Additional courses may be offered by SDSU instructors on campus and at various attendance centers.

### Requirements for Agricultural and Environmental Law Certificate: 15 Credits

Select three courses from the following. Credits: 9
*Must include one of these courses.

- AGEC 320 - Ethics in Agribusiness Credits: 3
  or AGEC/BADM 457-557 - Business Ethics (COM) Credits: 3
- AGEC/ BLAW 352 - Agricultural Law Credits: 3 *
- AGEC 356 - Equine Law Credits: 3
- AGEC/ BLAW 462-562 - Environmental Law Credits: 3 *
- AGEC/ BLAW 366 - Food Law Credits: 3
- BLAW/ HLTH 451-551 - Public Health Law Credits: 3

### Electives

- Consult advisor to select additional six credits of approved electives. Topics include: law, agribusiness, agriculture environment, and natural resources. Credits: 6

### Total Required Credits: 15

## Animation Certificate

### Program Coordinator/Contact

Young Ae Kim, Graphic Design Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

The certificate in animation is a stand-alone program and may be taken by any student regardless of major or may be selected by Studio Art majors as part of their degree. The certificate prepares students for life-long avocational pursuit in the arts.

### Student Learning Outcomes

Upon completion of the certificate, students are able to demonstrate the following outcomes through studio projects:

- Understanding of basic principles of design and color, concept, media and formats related to animation. This includes the basic traditions, conventions and evolutions of animated forms of art and design.
- Ability to synthesize the use of drawing, two-dimensional design and color, related to animation.
- Knowledge and skills in basic tools, techniques, and technologies sufficient to work from concept to finished animated product.
- The preparation of animation using basic animation techniques and technologies with the opportunity to work at advanced level.

### Academic Requirements

Students must maintain at least a program GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of "C" or better is required in all courses required for the certificate.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Animation Certificate: 12 Credits

- GDES 203 - Animation Foundations I Credits: 3
- GDES 303 - Animation Foundations II Credits: 3
- GDES 403 - Intermediate Animation Credits: 3
- ART 492-592 - Topics (COM) Credits: 1-9 (3 credits required) (Animation)
  or GDES 304 - Motion Graphics Credits: 3

### Total Required Credits: 12

## Art History Certificate

### Program Coordinator/Contact

Diana Behl, Studio Art Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

The certificate in Art History is a stand-alone program and may be taken by any students regardless of major or may be selected by Studio Art majors as part of their degree. The certificate prepares students for life-long avocational pursuit in the arts.

### Student Learning Outcomes

Upon completion of the certificate students are able to demonstrate the following outcomes through advanced writing:

- Develop an understanding of the common vocabulary of art and design and of the interaction of these elements and employ this knowledge in analysis.
- Acquire the ability to place works of art and design in historical, cultural and stylistic contexts.
- Ability to analyze works of art and design perceptively and evaluate them critically.
- Opportunity to work at advanced levels.

### Academic Requirements

Students must maintain at least a program GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of "C" or better is required in all courses required for the certificate.

### Course Delivery Format

Course content is delivered through classroom lectures.

### Requirements for Art History Certificate: 12 Credits

- ARTH 211 - History of World Art I (COM) [SGR #4] Credits: 3
- ARTH 212 - History of World Art II (COM) [SGR #4] Credits: 3
- ARTH 312 - History of Graphic Design (COM) Credits: 3
  or ARTH 320 - Modern Art and Architecture Survey Credits: 3
- ARTH 490 - Seminar (COM) Credits: 1-3 (3 credits required)
  or ARTH 492 - Topics (COM) Credits: 1-6 (3 credits required)

### Total Required Credits: 12

## Bioprocessing Sciences Certificate

### Program Coordinator/Contact

Vikram Mistry, Interim Associate Dean and Director of Academic Programs
College of Agriculture, Food and Environmental Sciences
Berg Agricultural Hall 156, Box 2207
605-688-5133

### Program Information

Bioprocessing technologies are used in a variety of industries ranging from renewable fuels, food and drink products, pharma- and nutraceuticals, and environmental remediation of wastes. The certificate in Bioprocessing Sciences will combine courses from several disciplines to enhance the student's knowledge of these technologies and provide hands-on experiences with their applications, thus helping to prepare students for career opportunities in the bioprocessing industries.

### Student Learning Outcomes

Students completing the Bioprocessing Sciences certificate will be able to:

- Understand how cells or cellular components of biomaterials can be grown to produce commercial quantities of desired raw products (upstream bioprocessing).
- Understand and use biomass separation techniques to extract desired product from cell debris (downstream bioprocessing).
- Apply bioprocessing principles (e.g., fermentation, heat, mass, and energy transfer) to manufacturing of renewable energy and commercial bioproducts or to management of environmental waste.
- Apply principles of quality control, operations efficiency, project management, and safety to manufacturing of bio-based products.

### Course Delivery Format

Coursework is delivered in a face-to-face learning environment with hands-on class laboratory experiences.

### Requirements for Bioprocessing Sciences Certificate: 12 Credits

- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
  or MICR 233-233L - Introductory Microbiology and Lab Credits: 4

### Select two or more of the following

- ABE 343-343L - Engineering Properties of Biological Materials and Lab Credits: 3
- ABE 444-444L/544-544L - Unit Operations of Biological Materials Processing and Lab Credits: 4
- AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3
- ME 311 - Thermodynamics I Credits: 3
  or ME 314 - Thermodynamics Credits: 3
- ME 416-516 - Renewable Energy Systems Credits: 3
- MICR 450 - Applied Microbiology and Biotechnology Credits: 3
- OM 240 - Decision Making Processes in Management Credits: 3

### Select from the following to total 12 credits

- ABE 411 - Design Project III Credits: 2 *
- GE 425-525 - Occupational Safety and Health Management Credits: 3
- MICR 311-311L - Food Microbiology and Lab Credits: 4
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MNET 231-231L - Manufacturing Processes I and Lab Credits: 3
- NUTR 426-426L/526-526L - Production of Wine Beer Spirits and Laboratory Credits: 3
- OM 425 - Production and Operations Management Credits: 3
- XXX 494 - Internship Credits: 1-2 *
- XXX 498 - Undergraduate Research Credits: 1-2 *

* Must be relevant to bioprocessing and approved by program coordinator.

### Total Required Credits: 12

## Ceramics Certificate

### Program Coordinator/Contact

Diana Behl, Studio Art Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

The certificate in ceramics is a stand-alone program and may be taken by any student regardless of major or may be selected by Studio Art majors as part of their degree. The certificate prepares students for life-long avocational pursuit in the arts.

### Student Learning Outcomes

Upon completion of the certificate, students are able to demonstrate the following outcomes through studio projects:

- The technical skills, perceptual development, and understanding of principles of visual organization sufficient to achieve basic visual communication and expression in one or more ceramic media.
- Ability to make workable connections between concept and media.
- Some familiarity with the works and intentions of major artists/designers and movements of the past and the present, both in the Western and non-Western worlds.
- Students should understand the nature of contemporary thinking on art and design, and have gained at least a rudimentary discernment of quality in design projects and works of art.

### Academic Requirements

Students must maintain at least a program GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of "C" or better is required in all courses required for the certificate.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Ceramics Certificate: 12 Credits

- ART 251 - Ceramics I (COM) Credits: 3
- ART 351 - Ceramics II (COM) Credits: 3
- ART 352 - Ceramics III Credits: 3
- ART 451 - Ceramics IV (COM) Credits: 3

### Total Required Credits: 12

## Engineering Graphics Certificate

### Program Coordinator/Contact

Jason Prout, Instructor
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417

### Program Information

The certificate in Engineering Graphics will provide a credential to individuals who demonstrate competency in engineering drawing creation, layout, dimensioning, and projections. The certificate will combine traditional drawing layout skills with advanced CAD and modeling applications. The materials science course provides knowledge of materials used in industry and their mechanical properties.

### Student Learning Outcomes

Students who complete the certificate in Engineering Graphics will:

- Demonstrate competence in applied drafting practice including descriptive geometry, orthographic projection, tolerancing and dimensioning, and basic computer aided drafting and design skills.
- Understand the application of engineering materials.

### Course Delivery Format

Course content is delivered on the Brookings campus in classroom, laboratory, and field based settings.

### Requirements for Engineering Graphics Certificate: 12 Credits

- GE 121 - Engineering Design Graphics I Credits: 1
- GE 122 - Engineering Design Graphics II Credits: 1
- GE 123 - Computer Aided Drawing Credits: 1

- MNET 220-220L - Parametric Modeling and Design and Lab Credits: 3
- MNET 240 - Parametric Modeling and Design II Credits: 3
- MNET 243 - Introduction to Materials Science Credits: 3

**Total Required Credits: 12**

## Geographic Information Sciences Certificate

### Program Coordinator/Contact

Bob Watrel, Department Head
Department of Geography and Geospatial Sciences
109 Wecota Hall
605-688-4511

### Program Information

Geographic information sciences are concerned with geographic concepts, the basic elements used to describe, analyze, model, and make decisions on phenomena distributed on the earth and surface. These technologies are utilized by many local, state, and federal governmental agencies, including the US Geologic Survey. With GIS's capability to visually display large amounts of geo-spatial data, thereby making it easier to analyze, there is a demand for college graduates educated in its use.

The certificate in Geographic Information Sciences will prepare students to utilize their knowledge of geography, the physical environment, the cultural environment, geographic applications, and various technologies to meet the challenges of today's society. The program includes the necessary courses to prepare the graduate to function in geographic information science and allows students to develop their knowledge and skills in one of two technical specialties, either GIS or Remote Sensing/Cartography.

The certificate targets people seeking a different level of learning outside of a traditional degree format. The Department delivers the certificate statewide, especially targeting employees of the EROS Data Center. Since the targeted audience will in most cases minimally hold a bachelor's degree, some flexibility in the certificate plan of study will need to be made on a case by case basis. Substitutions and alternate courses may be approved as the need arises.

### Student Learning Outcomes

Upon completion of the certificate, students will:

- acquire foundational and specialized knowledge in both the physical and human worlds and their interconnectedness at different scales;
- effectively communicate geographical ideas using common media from the discipline (submitted samples might include maps, oral presentations, text, photos, illustrations, flowcharts, tables, graphs, graphics);
- engage in applied learning, laboratory, and/or field experiences;
- demonstrate the ability to collect, organize, analyze, and synthesize information about people, places, and environments in a spatial-temporal context.

### Academic Requirements

Students must earn at least a "C" in each course used to meet the certificate requirements.

### Course Delivery Format

The program includes lecture, discussion, laboratory research, fieldwork, and travel, with limited online coursework.

### Requirements for Geographic Information Sciences Certificate: 12 Credits

- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- GEOG 383-383L - Cartography and Lab Credits: 3
  or GEOG 483-483L/583-583L - Aerial Remote Sensing and Lab Credits: 3

### Technical Electives

Select six credits from GIS Technical Electives or Remote Sensing/Cartography Technical Electives.

### GIS Technical Electives

Select two from the following. Credits: 6

- GEOG 473-473L/573-573L - GIS: Data Creation and Integration and Lab (COM) Credits: 3
- GEOG 474-474L/574-574L - GIS: Vector and Raster Modeling and Lab Credits: 3
- GEOG 475-475L/575-575L - GIS Applications and Lab Credits: 3

### Remote Sensing/Cartography Technical Electives

Select two from the following. Credits: 6

- GEOG 384-384L - Advanced Cartography and Lab Credits: 3
- GEOG 484-484L/584-584L - Remote Sensing and Lab (COM) Credits: 3
- GEOG 485-485L/585-585L - Quantitative Remote Sensing and Lab Credits: 3

**Total Required Credits: 12**

## Graphic Design Certificate

### Program Coordinator/Contact

Young Ae Kim, Graphic Design Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

The certificate in graphic design is a stand-alone program and may be taken by any student regardless of major or may be selected by a variety of majors as part of their degree. The certificate prepares students for life-long avocational pursuit in the arts.

### Student Learning Outcomes

- The ability to understand, conceive and create basic graphic design.
- Understanding and the use of basic visual communication principles and process, including but not limited to theory, principles and history; creative approaches; design processes; vocabulary; spatial, temporal, and kinetic relationships; and use of typography, images, color, motion and sequencing.
- Understanding of and the ability to use basic design technology, including but not limited to functional ability to continue to learn technology.

### Academic Requirements

Students must maintain at least a program GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of "C" or better is required in all courses required for the certificate.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Graphic Design Certificate: 12 Credits

- GDES 101 - Computer Graphics Credits: 3
- GDES 207 - Interactive Design I Credits: 3
  or GDES 410 - Data Visualization Design Credits: 3
  or GDES 415 - Publication Design Credits: 3
- GDES 216 - Typography Credits: 3
- GDES 310 - Branding Strategy and Identity Design Credits: 3

**Total Required Credits: 12**

## Livestock & Animal Products Evaluation Certificate

### Program Coordinator/Contact

Rosie Nold, Professor and Assistant Department Head
Department of Animal Science
Animal Science Complex 116
605-688-5459

### Program Information

Evaluation and judging consists of carefully analyzing animals or products and judging them against a standard that is commonly accepted as ideal. Trained evaluators find rewarding careers in livestock and meats industries positions, including cattle buyer, swine procurement manager, beef carcass sales manager and others. Furthermore, there is high demand for qualified judges at all levels of livestock shows from small, local shows to the national level. Recipients of this certificate will participate in evaluation of many species, including cattle, hogs, sheep, goats, and dairy animals, as well as animal products including carcasses, meat products and dairy products, while likely receiving more in-depth evaluation skills on one or more species or products.

### Student Learning Outcomes

Students in the Livestock and Meat Animal Products Evaluation Certificate will develop:

- Understanding of United States Department of Agriculture grading standards for relevant commodities.
- Expertise in visual evaluation of livestock and animal products.

- Expertise in evaluation of genetic and economic data, such as livestock Expected Progeny Differences (EPDs) and market value of commodities.
- Advanced decision-making skills involving combinations of livestock genetic and performance data, visual evaluation of livestock, livestock and animal products economic data and visual evaluation of animal products.

### Course Delivery Format

Hands-on experiences are delivered in the classroom, laboratories, field trips, and at the livestock teaching units.

### Requirements for Livestock and Animal Products Evaluation Certificate: 12-14 Credits

- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
- AS 200 - Introduction to Meat Judging Credits: 1-2 (1 credit required)
- AS 201 - Introduction to Livestock Judging Credits: 1-2 (1 credit required)
- AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 3
- AS 322 - Advanced Livestock Evaluation Credits: 1
- AS 400 - Judging Team Credits: 1-2 (1 credit required)

### Select from the following

Select a minimum of one credit from the following list. Credits: 1-3

- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- AS 400 - Judging Team Credits: 1-2 (1 credit required) (Section 1, 2 or 3; cannot use same section as for required credit)
- DS 202 - Dairy Products Judging Credits: 1
- DS 311 - Dairy Cattle Judging Credits: 2

### Total Required Credits: 12-14

## New Product & Venture Development Certificate

### Program Coordinator/Contact

Barb Heller, Entrepreneurship Coordinator
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The certificate in New Product and Venture Development will prepare students with the skills essential to building innovative and entrepreneurial organizations and taking their product and service ideas to the market place.

### Student Learning Outcomes

Students earning a certificate in New Product and Venture Development will be able to:

- participate in innovative and creative thought processes.
- identify and assess innovative business opportunities.
- comprehend business research and analysis and incorporate it in oral and written communication.
- identify the steps to start an entrepreneurial venture in new and established organizational settings.
- evaluate opportunities for growth of entrepreneurial ventures.
- identify growth challenges and actions and steps related to harvest of an entrepreneurial venture.

### Course Delivery Format

Course content is delivered on campus and online.

### Requirements for New Product and Venture Development Certificate: 9 Credits

- ENTR 236 - Innovation and Creativity Credits: 3
- ENTR 237 - Entrepreneurship Development Credits: 3
- ENTR 338 - New Venture Creation Credits: 3

### Total Required Credits: 9

## Painting Certificate

### Program Coordinator/Contact

Diana Behl, Studio Art Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

The certificate in painting is a stand-alone program and may be taken by any student regardless of major or may be selected by Studio Arts majors as part of their degree. The certificate prepares students for life-long avocational pursuit in the arts.

### Student Learning Outcomes

Upon completion of the certificate, students are able to demonstrate the following outcomes through studio projects:

- Develop a basic understanding of traditional and contemporary approaches to painting and painting techniques.
- The technical skills, perceptual development, and understanding of principles of visual organization sufficient to achieve basic visual communication and expression in one or more painting media.
- Ability to make workable connections between concept and media.
- Some familiarity with the works and intentions of major artists/designers and movements of the past and the present, both in the Western and non-Western worlds.
- Students should understand the nature of contemporary thinking on art and design, and have gained at least a rudimentary discernment of quality in design projects and works of art.

### Academic Requirements

Students must maintain at least a program GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of "C" or better is required in all courses required for the certificate.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Painting Certificate: 12 Credits

- ART 231 - Painting I (COM) Credits: 3
- ART 331 - Painting II (COM) Credits: 3
- ART 431 - Painting III (COM) Credits: 3
- ART 432 - Painting IV (COM) Credits: 3

### Total Required Credits: 12

## Phlebotomy Certificate

### Program Coordinator/Contact

Stacie Lansink, Program Director
Department of Allied and Population Health
Avera Health and Science Center
605-688-5855

### Program Information

The certificate prepares students to enter the health care field as phlebotomists. Phlebotomists work in variety of settings including clinical laboratories, hospitals, and community health centers, where they collect blood for donation and analysis. This role is critical in health care as the blood tests are used to diagnose illness, evaluate effectiveness of medications, and determine whether a patient is receiving proper nutrition.

### Student Learning Outcomes

Upon completion of the certificate, students will:

- Demonstrate knowledge of the health care system and medical terminology.
- Communicate (verbally and nonverbally) effectively and appropriately in the health care environment.
- Demonstrate an understanding of the importance of specimen collection, various types of additives used in the collection of blood for laboratory analysis, special precautions that are necessary due to a patient's disease state, and substances that can interfere with analysis of blood constituents.
- Follow standard operating procedures to collect a blood specimen via venipuncture and capillary (dermal) puncture.

- Demonstrate an understanding of age specific and psycho-social considerations involved in the performance of phlebotomy procedures on various age groups of patients.

### Academic Requirements

Students must earn at least a "C" in each course used to meet the certificate requirements.

### Course Delivery Format

The certificate in phlebotomy would provide students with coursework and clinical experience in phlebotomy. The courses are offered online with an on-campus laboratory course to train students to draw blood. Students also complete 100 hours of clinical experience in health care settings. Following completion of the certificate, the student would be eligible for certification through the American Society for Clinical Pathology.

### Requirements for Phlebotomy Certificate: 9 Credits

- MLS 201 - Understanding Medical Laboratory Science Credits: 2
- MLS 412 - Laboratory Methods Credits: 3
- MLS 412L - Laboratory Methods Lab Credits: 1
- MLS 487 - Elective Clinical Practice Credits: 1-4 (2 credits required)
- MLS 489 - Phlebotomy Clinical Experience Credits: 1

**Total Required Credits: 9**

## Pre-Construction Planning Certificate

### Program Coordinator/Contact

Suzette Burckhard, Interim Department Head
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417

### Program Information

The certificate in Pre-Construction Planning will provide a foundational skill set in plan layout and development, construction materials, commercial building methods, pre-construction planning including the RSMeans cost index, and an understanding of building mechanical, electrical and plumbing systems. The certificate will prepare students to secure positions with design-build firms, lumberyards, and sub-contractors as estimators, schedulers, and/or site supervisor.

### Student Learning Outcomes

It is expected that students completing the Pre-Construction Planning Certificate will be able to:

- understand how the materials, labor and methods of construction apply in a project.
- understand project delivery methods.
- demonstrate the ability to interpret plans, produce a quantity takeoff and a build schedule.

### Course Delivery Format

Program courses are taught on campus, online, and in field-based settings appropriate to the course content.

### Requirements for Pre-Construction Planning Certificate: 12 Credits

- CM 124 - Construction Graphics Credits: 3
  or CM 230 - Applied Construction Planning Credits: 3
- CM 216 - Construction Methods and Materials Credits: 3
- CM 232 - Cost Estimating Credits: 3
- CM 333 - Mechanical, Electrical, Plumbing Systems Credits: 3

**Total Required Credits: 12**

## Printmaking Certificate

### Program Coordinator/Contact

Diana Behl, Studio Art Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

The certificate in printmaking is a stand-alone program and may be taken by any student regardless of major or may be selected by Studio Arts majors as part of their degree. The certificate prepares students for life-long avocational pursuit in the arts.

### Student Learning Outcomes

Upon completion of the certificate, students are able to demonstrate the following outcomes through studio projects:

- The technical skills, perceptual development, and understanding of principles of visual organization sufficient to achieve basic visual communication and expression in one or more printmaking media.
- Ability to make workable connections between concept and media.
- Some familiarity with the works and intentions of major artists/designers and movements of the past and the present, both in the Western and non-Western worlds.
- Students should understand the nature of contemporary thinking on art and design, and have gained at least a rudimentary discernment of quality in design projects and works of art.

### Academic Requirements

Students must maintain at least a program GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of "C" or better is required in all courses required for the certificate.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Printmaking Certificate: 12 Credits

- ART 281 - Printmaking I (COM) Credits: 3
- ART 381 - Printmaking II (COM) Credits: 3
- ART 382 - Printmaking III Credits: 3
- ART 481 - Printmaking IV Credits: 3

**Total Required Credits: 12**

## Sculpture Certificate

### Program Coordinator/Contact

Diana Behl, Studio Art Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

The certificate in sculpture is a stand-alone program and may be taken by any student regardless of major or may be selected by Studio Arts majors as part of their degree. The certificate prepares students for life-long avocational pursuit in the arts.

### Student Learning Outcomes

Upon completion of the certificate, students are able to demonstrate the following outcomes through studio projects:

- The technical skills, perceptual development, and understanding of principles of visual organization sufficient to achieve basic visual communication and expression in one or more sculpture media.
- Ability to make workable connections between concept and media.
- Some familiarity with the works and intentions of major artists/designers and movements of the past and the present, both in the Western and non-Western worlds.
- Students should understand the nature of contemporary thinking on art and design, and have gained at least a rudimentary discernment of quality in design projects and works of art.

### Academic Requirements

Students must maintain at least a program GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of "C" or better is required in all courses required for the certificate.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Sculpture Certificate: 12 Credits

- ART 241 - Sculpture I (COM) Credits: 3
- ART 341 - Sculpture II (COM) Credits: 3
- ART 342 - Sculpture III (COM) Credits: 3
- ART 441 - Sculpture IV (COM) Credits: 3

**Total Required Credits: 12**

## Swine Science Certificate

### Program Coordinator/Contact

GPIDEA Coordinator
Office of Continuing and Distance Education
605-688-4154

Bob Thaler, Professor and Extension Swine Specialist
Department of Animal Science
Animal Science Complex 114
605-688-5435

### Program Information

Swine Science is an inter-institutional undergraduate certificate program designed to prepare academically trained students entering the pork industry in such areas as sales and communications, construction, production management, and pharmaceuticals. Upon completion of the required and elective courses, students will be able to apply for a Swine Science Online Certificate from the U.S. Pork Center of Excellence.

### Student Learning Outcomes

Students earning a certificate in Swine Science will be able to:

- integrate disciplines and concepts in order to facilitate problem solving, creating a more efficient and sustainable production system.
- combine scientific principles and management skills involved in pork production.
- recognize available career opportunities within the pork industry.
- apply personnel, facility, fiscal, and livestock management.
- perform basic swine husbandry.
- understand the impact of societal and industry issues on production management systems.
- explain the pork structure and trends, including production, packing, and integration.

### Course Delivery Format

The fully-online programs of the Great Plains IDEA provide flexibility, enabling students to balance career advancement with professional, social and financial commitments. AG*IDEA, an affiliate of the Great Plains IDEA, is a national consortium of land grant universities offering programs and courses in agriculture disciplines.

### Requirements for Swine Science Certificate: 12 Credits

- AS 202 - Basic Swine Science Credits: 2
- AS 306 - Swine Breeding and Gestation Management Credits: 1
  or AS 307 - Swine Farrowing Management Credits: 1
  or AS 308 - Swine Nursery and Finishing Management Credits: 1
- AS 310 - Employee Management for the Swine Industry Credits: 1
- AS 313 - Swine Health and Biosecurity Credits: 1
- AS 494 - Internship (COM) Credits: 1-12 (1 credit required - Production Internship in the Swine Industry)

### Electives

Choose courses not previously selected. Credits: 6

- AS 301 - Advanced Swine Science Credits: 2
- AS 302 - Swine Environment Management Credits: 1
- AS 303 - Swine Feed Mill Management Credits: 1
- AS 304 - Swine Manure and Nutrient Management Credits: 1
- AS 305 - Swine Nutrition Credits: 1
- AS 306 - Swine Breeding and Gestation Management Credits: 1
- AS 307 - Swine Farrowing Management Credits: 1
- AS 308 - Swine Nursery and Finishing Management Credits: 1
- AS 309 - Swine Business and Records Analysis Credits: 1
- AS 311 - Marketing and Risk Management in the Swine Industry Credits: 1
- AS 312 - Pork Product Quality and Safety Credits: 1
- AS 314 - Pork Export Markets Credits: 1
- AS 315 - Contemporary Issues in the Swine Industry Credits: 1

### Total Required Credits: 12

## Unmanned Aircraft Systems Certificate

### Program Coordinator/Contact

Bob Watrel, Department Head
Department of Geography and Geospatial Sciences
109 Wecota Hall
605-688-4511

### Program Information

The certificate in Unmanned Aircraft Systems (UAS) will provide a credential to students and/or individuals who have demonstrated competency in the planning and operation of UAS. The certificate will provide the knowledge and skills necessary to apply this technology to a field of study or field of work. This certificate will also provide the knowledge necessary to attain the FAA Part 107 small Unmanned Aircraft Systems license. UAS is a technology with many applications, some of which include remote sensing, geographic information systems (GIS), precision agriculture, construction, resource management, engineering, cinematography, and emergency services.

### Student Learning Outcomes

Upon completion of the Unmanned Aircraft Systems certificate, graduates will be able to:

- Describe small UAS design, component and current applications.
- Describe and apply small UAS laws, safety and ethical considerations.
- Demonstrate relevant knowledge to pass FAA 107 small UAS commercial pilot test.
- Plan and execute small UAS mission in order to collect, process, and analyze small UAS data.
- Identify, discuss and summarize research applications, commercial applications, and limitations of small UAS.
- Demonstrate the ability to work independently, and as part of a team.

### Course Delivery Format

The program includes lecture, discussion, laboratory research, fieldwork, and with limited online coursework.

### Requirements for Unmanned Aircraft Systems Certificate: 12 Credits

- AVIA 200 - Aviation Safety Credits: 3
- GEOG 270 - Introduction to Small Unmanned Aircraft Systems Credits: 3
- GEOG 483-483L/583-583L - Aerial Remote Sensing and Lab Credits: 3

### Select one of the following

Credits: 3

- AST 426-426L - Technology Applications for Precision Agriculture and Lab Credits: 3
- CM 400-500 - Risk Management and Construction Safety Credits: 3
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- GEOG 473-473L/573-573L - GIS: Data Creation and Integration and Lab (COM) Credits: 3
- GEOG 484-484L/584-584L - Remote Sensing and Lab (COM) Credits: 3

### Total Required Credits: 12

## Wizipan Leadership & Sustainability Certificate

### Program Coordinator/Contact

Rachel Lindvall, Program Coordinator
College of Agriculture, Food and Environmental Sciences
Wizipan Leadership and Sustainability Program
605-394-2236

### Program Information

The Wizipan Leadership and Sustainability Program of The Indian University of North America® Crazy Horse Memorial®, Black Hills, SD is a unique partnership between The Indian University of North America®, the Crazy Horse Memorial® Foundation and South Dakota State University. This semester long, immersive program allows students to earn a certificate through SDSU. Based on the Lakota term – Wachante Hecha Wizipan (The Heart of Everything that Is) – the Wizipan program uses experiential education, Indigenous narrative, language, culture, and kinship to land as its primary learning tools. This program finds connection between Indigenous land-based knowledge and sustainability. The certificate offers coursework in American Indian studies, Natural Resource Management, Global Food Systems, and Leadership. Courses will provide students with the skill sets needed to understand the potential of their leadership roles in their own communities. Students are encouraged to evaluate and understand the relationship

of care of self (trauma, mental, physical, spiritual health), care of community (kinship and family), care of environment (land, food and sustenance), and care of culture (language, narrative, ceremony).

### Student Learning Outcomes

Students completing the certificate in Wizipan Leadership and Sustainability will be able to:

- Identify personal leadership style, conflict management, and approaches to team building and strategic planning.
- Demonstrate critical thinking and problem-solving skills.
- Identify critical sustainability issues for self, community, environment, and culture.
- Lead sustainable change initiatives.
- Combine Indigenous knowledge and environmental science to rebuild a better world.

### Course Delivery Format

Classes will be taught in an innovative, interdisciplinary, hands-on style emphasizing Indigenous experimental learning. The program includes field trips, mentorship, group discussions, and collaborative inquiry projects.

### Requirements for Wizipan Leadership and Sustainability Certificate: 15 Credits

- ABS 203 - Global Food Systems [SGR #3] Credits: 3
- AIS 492 - Topics (COM) Credits: 1-3 (3 credits required)
- LDR 210 - Foundations of Leadership Credits: 3
- NRM 110 - People and the Environment Credits: 3
- NRM 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4 (3 credits required)

**Total Required Credits: 15**

## Workplace Intercultural Competence Certificate

### Program Coordinator/Contact

Maria Spitz, Associate Professor of Spanish
School of American and Global Studies
Wagner Hall 103, Box 2275
605-688-5102

### Program Information

The Workplace Intercultural Competence Certificate prepares graduates with the knowledge and skills needed to provide management of diverse workplaces in a variety of settings including business, construction, and agriculture. Students gain a basic understanding of the challenges of second-language acquisition and intercultural communication and acquire and hone the skills required to work in a diversity-rich setting and engage in intercultural communication. Students are introduced to basic theories and research regarding communication between cultures.

### Student Learning Outcomes

Students will be able to:

- Identify the basic challenges of second-language acquisition.
- Demonstrate novice-high competency in a second language; according to the American Council on the Teaching of Foreign Languages, this means that students can sometimes but not consistently maintain simple conversation and can communicate via a combination of learned utterances and spontaneous language mostly in the present tense.
- Demonstrate an understanding of cultural frames by comparing and contrasting aspects of a non-U.S. culture with U.S. culture.
- Identify and apply basic theories of intercultural praxis: Through dialogue and reflection, demonstrate an inquiry into cultural contexts; awareness of one's own cultural frame of reference; and consideration of one's own geographical, sociopolitical and historical relation to knowledge.
- Demonstrate an ability to appropriately adapt behavior to cultural differences.
- Demonstrate competency in workplace management.

### Course Delivery Format

Program courses are taught on campus, online, and in field-based settings appropriate to the course content.

### Requirements for Workplace Intercultural Competence Certificate: 14-15 Credits

- FREN 101 - Introductory French I (COM) [SGR #4] Credits: 4
  or GER 101 - Introductory German I (COM) [SGR #4] Credits: 4
  or LAKL 101 - Introductory Lakota I (COM) [SGR #4] Credits: 4
  or SPAN 101 - Introductory Spanish I (COM) [SGR #4] Credits: 4
- FREN 102 - Introductory French II (COM) [SGR #4] Credits: 4
  or GER 102 - Introductory German II (COM) [SGR #4] Credits: 4
  or LAKL 102 - Introductory Lakota II (COM) [SGR #4] Credits: 4
  or SPAN 102 - Introductory Spanish II (COM) [SGR #4] Credits: 4
- GLST 280 - Developing Intercultural Competence Credits: 3
  or CMST 470 - Intercultural Communication (COM) Credits: 3

### Select from the following

Select one management elective course from the following. Credits: 3-4

- ADV 370 - Advertising Principles (COM) Credits: 3
- AGEC 371 - Agricultural Business Management Credits: 3
- AS 445-445L - Value-Added Meat Products and Lab Credits: 3
- AS 474-474L - Cow/Calf Management and Lab Credits: 3
- AS 475-475L - Feedlot Operations and Management and Lab Credits: 3
- AS 478-478L - Swine Production and Lab Credits: 3
- BADM 101 - Survey of Business (COM) Credits: 3
- BADM/ MGMT 360 - Organization and Management (COM) Credits: 3
- CM 400-500 - Risk Management and Construction Safety Credits: 3
- DS 421-421L - Dairy Plant Management and Lab Credits: 4
- DS 481-481L/581-581L - Dairy Farm Operations II and Lab Credits: 4
- ECE 325 - Inclusion and the Diverse Learner Credits: 3
- EEC 334 - Diversity in the Lives of Young Children and Families Credits: 3
- GE 469 - Project Management Credits: 3
- HMGT 171 - Introduction to Hospitality, Tourism, and Event Industry Credits: 3
- HMGT 472 - Hospitality Facilities Management and Design Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- MCOM 430-530 - Media Law (COM) Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- OM 462-562 - Quality Management Credits: 3
- OM 463-563 - Supply Chain Management Credits: 3

**Total Required Credits: 14-15**

# Certification Preparation

## Athletic Coaching Certification

### Program Coordinator/Contact

Jill VanDamme, Instructor, Coordinator
School of Health and Consumer Sciences
Wagner Hall 441, Box 2275A
605-688-4547

### Program Information

Persons interested in coaching a sport at the elementary, junior high/middle school, or high school level can complete requirements to have a coaching authorization on their certificate. Some states, including South Dakota, Iowa, and Minnesota have specific requirements for athletic coaching certification in public schools. Students interested in seeking certification should visit with the Coaching Certification Coordinator in the School of Health and Consumer Sciences to verify the specific requirements for each state.

To be a coach at the elementary or junior high/middle school level or to be a coach at a high school level, students should take:

- EXS 354-354L - Prevention and Care of Athletic Injuries and Lab (COM) Credits: 2
- HLTH 250-250L - Pre-Professional First Aid and CPR and Lab (COM) Credits: 2

In general, persons wishing to be a head coach at the high school level must also take a course in each sport s/he wishes to coach. The coaching classes are:

- PE 483 - Fundamentals and Theories of Coaching (COM) Credits: 2
- PE 484 - Fundamentals and Theories of Coaching: Field Experience (COM) Credits: 1

(PE 484 will be allowed to be repeated to take the field experience for multiple sports. The first time it is taken it must be taken with PE 483.)

## Education Curriculum for Teachers of Academic Subjects

### Program Contact/Coordinator

Patrick Hales, Assistant Professor, Coordinator
School of Education, Counseling and Human Development
Wenona Hall 219
605-688-4369

### Program Information

The Secondary Teacher Education program prepares students to teach in an academic major and/or other fields in which they are appropriately prepared. Students complete the requirements for a B.S or B.A. degree in an academic major before or while meeting the requirements for South Dakota teacher certification. The program in Teacher Education is a certification program in which students who are completing a major in an academic discipline of their choice can become certified in secondary education (middle and high school) in one or several subject areas and/or K-12 teaching in art, world languages, music, or physical education.

### Program Admission

The coursework for teacher education is divided into four professional semesters. In addition, once one has finished the professional sequence, he/she must be recommended for certification to teach in South Dakota. The requirements for each are as follows:

### Admission into Pre-Residency I (EDFN 101, EDFN 351)

In order to register for the two courses of Pre-Residency I (PR-I) a candidate must be at least a sophomore at the beginning of the semester in which he/she is taking the PR-I courses.

### Admission into Pre-Residency II (EDFN 352, EDFN 352L)

Candidates admitted into Pre-Residency II are considered members of the Teacher Education Program and are classified as "Education Candidates." In order to achieve this status, a candidate must have:

1. Achieved a junior status at the University;
2. Completed PR-I with grades of "C" or better and be recommended by PR-I faculty;
3. Hold an overall GPA of 2.5 or higher;
4. Met competency requirements:
   - English: a grade of "C" or above in ENGL 101 or credit by examination
   - Math: a grade of "C" or above in MATH 103 or higher level math course or credit by examination
   - Speech: a grade of "C" or above in CMST 101 or higher or credit by examination;
   - Completed an application for admission to Teacher Education which includes appropriate biographical and background information; and
5. Have a current transcript on file in the School office.

### Admission into Residency I & II (EDFN 453, EDFN 453L, EDFN 454)

Education candidates will be permitted to register for the courses of Residency I and II if they have:

1. Achieved senior standing at the University;
2. Achieved a passing score on the Praxis Content Exam;
3. Been admitted to the Teacher Education Program and successfully completed all standard requirements therein (or alternatives decided by the Admissions and Scholastic Standards Committee);
4. Successfully completed all prerequisite coursework for the professional education program, including one special methods course in a major field (with exception of the sciences for which the methods course is a co-requisite), the South Dakota Indian Studies requirement and suicide awareness and prevention training;
5. Have the following minimum GPA's:
   - Education courses 2.7
   - All courses completed at the "C" level or above
   - Courses in the major 2.7
   - Overall cumulative 2.5
   - Pass content approved content test
     or
   - Completed all competency plans and/or other activities prescribed by the Admissions and Scholastic Standards Committee;
6. Have recommendations on file in the School office from both the major adviser and the content methods instructor (these recommendations must include the candidate's GPA in his/her major);
7. Meet with the placement supervisor of the Office of Field Experiences before October 1 (for Residency I in spring) or February 1 (for Residency I in the fall) and complete an Application for Student Teaching;
8. Hold non-probationary status; and
9. Prior to student teaching, a background check may be required.
   *See major School section for special methods courses.

### Academic Requirements

- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with school/department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure Requirements for South Dakota

- Complete an approved bachelor's degree program in the content area, with all required teacher education coursework included.
- Complete an approved Indian Studies course.
- Pass the state designated content knowledge test.
- Pass the state designated pedagogy test.
- Complete a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Receive a written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Courses in Secondary Education are delivered face to face, online and hybrid (face to face and online combination). Most secondary education courses have practical applications in field experience settings in K-12 or 7-12.

### Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1
- Content Methods (Varies by Content Area) Credits: 3-4

## Secondary Teacher Education - Certification Only

### Program Coordinator/Contact

Patrick Hales, Assistant Professor, Coordinator
School of Education, Counseling and Human Development
Wenona Hall 219
605-688-4369

### Program Information

The certification-only program allows those with baccalaureate degrees to earn a teaching certificate, preparing them for work as highly qualified professional educators in their chosen teaching areas. The curriculum consists of academic study, professional preparation and field experience, providing students with pedagogical and content-specific knowledge, readying them to work with diverse populations of learners.

### Admission Guidelines

Admission to the program requires a 2.5 overall GPA; a 2.7 content GPA in the major; and completion of ENGL 101 - Composition I (COM) [SGR #1], CMST 101 - Fundamentals of Speech (COM) [SGR #2], and MATH 103 - Mathematical Reasoning (COM) [SGR #5] with no grade less than "C." The following guidelines are applicable at all South Dakota Regental institutions:

1. The teacher candidate must have a baccalaureate degree from an accredited institution of higher education.

2. In order to be admitted to the certification only program, the candidate must meet teacher education program admission requirements. In addition, the candidate must complete the PRAXIS II content exam in his/her major as specified by the South Dakota Department of Education (SDDOE). The candidate must meet or exceed the minimum score required for certification in South Dakota.
3. The candidate will complete all teacher certification courses as identified by the institution, including the appropriate special methods course but not to include other content major courses, and sit for the PRAXIS II Principles of Learning and Teaching exam.
4. When the candidate meets the minimum required score on the PRAXIS II Principles of Learning and Teaching exam for certification in South Dakota and all other program completion requirements set forth by the institution, the institution will recommend the candidate for teacher certification.
5. The SDDOE will maintain accountability for the candidate scores on the PRAXIS II content exam. The universities will maintain accountability for the candidate scores on the PRAXIS II Principles of Learning and Teaching exam.
6. The certification only program is limited to K-12 specific content areas and 7-12 specific content areas.

### Admission into Pre-Residency I (EDFN 101, EDFN 351)

In order to register for the two courses of Pre-Residency I (PR-I) a candidate in the certification only program must have met all admissions requirements and met with the Pre-Residency Advisor to approve their plan of study.

### Admission into Pre-Residency II (EDFN 352, EDFN 352L)

Candidates admitted into Pre-Residency II are considered members of the Teacher Education Program and are classified as "Education Candidates." In order to achieve this status, a candidate must have:

1. Completed PR-I with grades of "C" or better and be recommended by PR-I faculty;
2. Hold an overall GPA of 2.5 or higher;
3. Met competency requirements:
   - English: a grade of "C" or above in ENGL 101 or credit by examination
   - Math: a grade of "C" or above in MATH 103 or higher level math course or credit by examination
   - Speech: a grade of "C" or above in CMST 101 or higher or credit by examination;
   - Completed an application for admission to Teacher Education which includes appropriate biographical and background information; and
4. Have a current transcript on file in the School office.

### Admission into Residency I & II (EDFN 453, EDFN 453L, EDFN 454)

Education candidates will be permitted to register for the courses of Residency I and II if they have:

1. Achieved a passing score on the Praxis Content Exam;
2. Been admitted to the Teacher Education Program and successfully completed all standard requirements therein (or alternatives decided by the Admissions and Scholastic Standards Committee);
3. Successfully completed all prerequisite coursework for the professional education program, including one special methods course in a major field (with exception of the sciences for which the methods course is a co-requisite), the South Dakota Indian Studies requirement and suicide awareness and prevention training;
4. Have the following minimum GPA's:
   - Education courses 2.7
   - All courses completed at the "C" level or above
   - Courses in the major 2.7
   - Overall cumulative 2.5
   - Pass content approved content test
     or
   - Completed all competency plans and/or other activities prescribed by the Admissions and Scholastic Standards Committee;
5. Have recommendations on file in the School office from both the Pre-Residency Advisor (this recommendation must include the candidate's GPA in his/her major);
6. Meet with the placement supervisor of the Office of Field Experiences before October 1 (for Residency I in spring) or February 1 (for Residency I in the fall) and complete an Application for Student Teaching (rather than wait for these deadlines, it is advisable to complete this application at least one semester before Residency I);
7. Hold non-probationary status; and
8. Prior to student teaching, a background check may be required.

### Academic Requirements

- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with school/department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure for South Dakota

- Complete an approved bachelor's program in the content area.
- Complete all required teacher certification coursework.
- Complete an approved Indian Studies course.
- Pass the state designated content knowledge test.
- Pass the state designated pedagogy test.
- Complete a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Receive a written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Courses in Secondary Education are delivered face to face, online and hybrid (face to face and online combination). Most secondary education courses have practical applications in field experience settings in K-12 or 7-12.

### Requirements for the Teacher Education – Certification Only Program

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1
- Content Methods (Varies by Content Area) Credits: 3-4

### Additional Requirements

- Please contact the specific coordinator for information about Studio Art (B.F.A.) - Art Education Specialization, Music Education (B.M.E.), and Physical Education Teacher Education (B.S.) as these programs differ significantly from other content areas.

## Soil Science Certification

### Program Coordinator/Contact

David Wright, Department Head
Brent Turnipseed, Assistant Department Head
Hani Ghosheh, Undergraduate Teaching Coordinator
Department of Agronomy, Horticulture, and Plant Science
Raven Precision Agriculture Center 140
605-688-4600 (Department Head, SRPAC 140)
605-688-4450 (Teaching Office, SNP 247)

### Program Information

The soil science certification curriculum is open to students of all majors and focuses on basic soil sciences, covering such topics as soil biology, soil chemistry, conservation, contaminants, and land management. Students completing the recommended coursework may seek employment in areas of agricultural production, marketing, management, and conservation.

### Student Learning Outcomes

Upon completion of the Soil Science Certification, students will:

- achieve a fundamental understanding of basic Soil Science principles and practices; and
- gain an understanding of soil biology, soil chemistry, conservation, contaminants, and land management in preparation for certification or licensure in the field.

### Accreditation, Certification, and Licensure

Students seeking certification or licensure as a professional soil scientist should contact their advisor and refer to the Soil Science Society of America webpage.

### Course Delivery Format

The program coursework is available on campus, in classrooms and laboratories, as well as field-based settings.

### Requirements for Soil Science Certification: 21 Credits

The following courses are strongly recommended for students seeking certification or licensure as a professional soil scientist.

- PRAG 410-410L/510-510L - Soil Geography and Land Use Interpretation and Lab Credits: 2, 1
- PRAG 423-523 - Soil Fertility and Plant Nutrient Management Credits: 3
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- PS 412-512 - Environmental Soil Chemistry Credits: 3
- PS 421-421L/521-521L - Soil Microbiology and Lab Credits: 3
- PS 462-462L/562-562L - Environmental Soil Management and Lab Credits: 3
- Soils Elective Credits: 3

# Distinctions

## Honors College Distinction

### Program Coordinator/Contact

Rebecca Bott-Knutson, Dean
Van D. and Barbara B. Fishback Honors College
Honors Hall 119, SHON Box 2705A
605-688-5268

### Program Information

The Mission of Van D. and Barbara B. Fishback Honors College at South Dakota State University is to provide talented, motivated students with a personalized, engaging, distinctive academic and enrichment experience that will position them for success as lifelong learners and leaders.

### Program Admission and Requirements

Students who earn a 27 or higher ACT score, a 1280 or higher SAT score, and/or are in the top ten percent of their high school graduating class are eligible to take Honors College courses. Students not meeting these requirements but who wish to take Honors courses should contact the Honors College to enroll in Honors courses.

When a student decides they intend to pursue graduation with Honors College distinction, they submit an Honors College Continuing Enrollment Form and sign the Honors College Student Ethic. At this point, students are officially enrolled as Honors College students, the Honors advisor is added as an advisor to their program, and their coursework is audited each semester to ensure progress toward requirements for graduation with Honors College distinction and eligibility for priority registration. Students complete 24 credits of Honors coursework integrated into their academic requirements and must earn a 3.5 cumulative grade point average upon graduation.

Students enrolled in SDSU's Honors College are granted priority registration if they are meeting the established Honors progression standards. This privilege is provided to allow students to meet the academic requirements of their major while also fulfilling unique scheduling demands associated with graduating with Honors College distinction. Priority registration is intended only for students who are committed to pursuing graduation with Honors College distinction.

Each semester, the Honors College office will conduct an audit of students' academic progress to determine eligibility for priority registration. Students intending to graduate with Honors College distinction who do not meet the progression standards will not be granted priority registration for that term. However, they are still part of the Honors College and are encouraged to work toward these standards to earn priority registration in future semesters.

**Eligibility for priority registration will be based on the following progression standards:**

- Students must have an Honors Continued Enrollment Form on file in order to be eligible for priority registration.
- Honors credit and GPA requirements are as follows:

| Current Semester* | Honors credit requirement | GPA Requirement |
|---|---|---|
| 1st | Enrolled in the Honors Orientation (HON 100) course | N/A |
| 2nd | Completed at least 3 Honors credits | Minimum GPA 3.2 |
| 3rd | Completed at least 6 Honors credits | Minimum GPA 3.3 |
| 4th | Completed at least 9 Honors credits | Minimum GPA 3.3 |
| 5th | Completed at least 12 Honors credits | Minimum GPA 3.4 |
| 6th | Completed at least 15 Honors credits | Minimum GPA 3.4 |
| 7th | Completed at least 18 Honors credits | Minimum GPA 3.5 |
| 8th | Completed at least 21 Honors credits | Minimum GPA 3.5 |
| 9th (and on) | Completed at least 24 Honors credits | Minimum GPA 3.5 |

*Current Semester refers only to fall and spring semesters. Summers are excluded.

### Student Learning Outcomes

Graduates from the Van D. and Barbara B. Fishback Honors College will demonstrate excellence in the following student learning outcomes:

- Effectively communicate ideas and beliefs with clarity, civility, and respect.
- Analyze and integrate multiple sources of information and demonstrate applications of critical thinking.
- Articulate personal values, beliefs, and self-identity.
- Articulate the value of diversity, inclusion, and equity.
- Demonstrate professionalism in a variety of contexts.

### Affiliation

The Van D. and Barbara B. Fishback Honors College is a member of the Upper Midwest Regional Honors Council and the National Collegiate Honors Council.

### Course Delivery Format

Honors courses are characterized by high levels of student engagement, faculty/student interaction, communication, critical thinking, and multi-disciplinary perspectives. Most courses are taught face-to-face on the Brookings campus in lecture/discussion/seminar formats. Many Honors courses also include hands-on laboratory, service, travel, and experiential components.

### Requirements for Honors College Distinction: 24 Credits

- Honors General Education Credits: 12
  Students enroll in Honors sections of general education courses needed for university and major/minor requirements. These Honors sections feature smaller classes, outstanding faculty, and more in-depth discussion and activities. AP exam scores of 5 may also be counted toward Honors general education (up to 6 credits).
- HON 383 - Honors Colloquium Credits: 3 * (3-6 credits required)

Colloquium is an exciting, multidisciplinary course focused on teaching material that is both relevant and contemporary. Topics vary from semester to semester, and the purpose of the course is to emphasize higher order thinking skills, as well as oral and written communication skills. Recent examples of Colloquium topics include: Current and Future Issues in Healthcare, Mathematics and the Arts, and The Work of Creativity. Participating in an Honors study abroad experience also fulfills the Colloquium requirement.

- Honors Contracted Coursework (300-400 level) * Credits: 3-6
  Students are able to contract a non-Honors course by working with the faculty member on a supplemental project that allows the student to engage more with the course material. Once the contract is completed, the student earns Honors credit for the course.
- HON 491 - Independent Study (COM) Credits: 1-3 * (3-6 credits required)

Students conduct original research, creative work, or scholarly activity under the direction of a faculty mentor to fulfill the independent study requirement. The project is accompanied by an academic paper and a presentation of the research or

creative work in a public venue. Credits can be from HON 491 or approved departmental independent study, capstone, or undergraduate research credits.

* Students must complete at least 3 credits of Honors Colloquium, Honors Contracted Coursework (300-400 level), and Independent Study. The additional 3 credits needed for graduation with Honors College distinction may be earned through a second contract, Colloquium, or independent study, or through other upper-division Honors credits.

**Total Required Credits: 24**

# Endorsements

## Early Childhood Education Kindergarten Education Endorsement

### Program Coordinator/Contact

Mary Bowne, Associate Professor/ECE Coordinator
School of Education, Counseling and Human Development
Pugsley Hall 139
605-688-5989

### Program Information

Students or graduates may seek additional certification to their primary teaching certificates authorizing them to teach in other age/grade spans and/or content areas. A Kindergarten Education Endorsement may be added to the Birth through Age 8 Specialization or Cooperative Programs in the Early Childhood Education major.

### Student Learning Outcomes

Early Childhood Education follows student learning outcomes as outlined by the National Association for the Education of Young Children (NAEYC).

Standard 1. Promoting child development and learning
1a: Knowing and understanding young children's characteristics and needs, from birth through Age 8.
1b: Knowing and understanding the multiple influences on early development and learning.
1c: Using developmental knowledge to create healthy, respectful, supportive, and challenging learning environments for young children.

Standard 2. Building family and community relationships
2a: Knowing about and understanding diverse family and community characteristics.
2b: Supporting and engaging families and communities through respectful, reciprocal relationships.
2c: Involving families and communities in young children's development and learning.

Standard 3. Observing, documenting, and assessing to support young children and families
3a: Understanding the goals, benefits, and uses of assessment – including its use in development of appropriate goals, curriculum, and teaching strategies for young children.
3b: Knowing about assessment partnerships with families and with professional colleagues to build effective learning environments.
3c: Knowing about and using observation, documentation, and other appropriate assessment tools and approaches, including the use of technology in documentation, assessment and data collection.
3d: Understanding and practicing responsible assessment to promote positive outcomes for each child, including the use of assistive technology for children with disabilities.

Standard 4. Using developmentally effective approaches
4a: Understanding positive relationships and supportive interactions as the foundation of their work with young children.
4b: Knowing and understanding effective strategies and tools for early education, including appropriate uses of technology.
4c: Using a broad repertoire of developmentally appropriate teaching /learning approaches.
4d: Reflecting on own practice to promote positive outcomes for each child.

Standard 5. Using content knowledge to build meaningful curriculum
5a: Understanding content knowledge and resources in academic disciplines: language and literacy; the arts – music, creative movement, dance, drama, visual arts; mathematics; science, physical activity, physical education, health and safety; and social studies.
5b: Knowing and using the central concepts, inquiry tools, and structures of content areas or academic disciplines.
5c: Using own knowledge, appropriate early learning standards, and other resources to design, implement, and evaluate developmentally meaningful and challenging curriculum for each child.

Standard 6. Becoming a professional
6a: Identifying and involving oneself with the early childhood field.
6b: Knowing about and upholding ethical standards and other early childhood professional guidelines.
6c: Engaging in continuous, collaborative learning to inform practice; using technology effectively with young children, with peers, and as a professional resource.
6d: Integrating knowledgeable, reflective, and critical perspectives on early education.
6e: Engaging in informed advocacy for young children and the early childhood profession.

Standard 7. Early childhood field experiences
7a. Opportunities to observe and practice in at least two of the three early childhood age groups (birth – age 3, 3-5, 5-8).
7b. Opportunities to observe and practice in at least two of the three main types of early education settings (early school grades, child care centers and homes, Head Start programs).

### Accreditation, Certification, and Licensure

### Accreditation

National Association for the Education of Young Children
Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

Candidates who have completed the curriculum many apply for the Kindergarten Education endorsement on their teaching certificate. They are not required to take an additional PRAXIS test to add this endorsement in South Dakota. However, those educators seeking initial certification and licensure in their content area must complete the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

### Course Delivery Format

Courses in Early Childhood Education are delivered face to face, online and hybrid (face to face and online combination). All ECE courses have practical applications in field experience settings in childcare and Pre-K-Grade 3.

### Requirements for Kindergarten Education Endorsement: 9 Credits

- ECE 495 - Practicum (COM) Credits: 1-12 (1 Credit Required) *
- ELED 412 Kindergarten Education Credits: 3 (Fall)
- Additional Coursework in Early Childhood Education Credits: 5

*Verified teaching experience in kindergarten within the five-year period immediately preceding the application may be accepted in lieu of the above field experiences at the equivalency of one year's teaching experience for one semester hour credit for a maximum of three semester hours of the total credit hours required.

## Early Childhood Special Education Endorsement

### Program Coordinator/Contact

Mary Bowne, Associate Professor/ECE Coordinator
School of Education, Counseling and Human Development
Pugsley Hall 139
605-688-5989

### Program Information

Students or graduates may seek additional certification to their primary teaching certificates authorizing them to teach in other age/grade spans and/or content areas. An Early Childhood Special Education Endorsement may be added to the Birth through Age 8 Specialization or Cooperative Programs in the Early Childhood Education major.

### Student Learning Outcomes

Early Childhood Education follows student learning outcomes as outlined by the National Association for the Education of Young Children (NAEYC).

Standard 1. Promoting child development and learning
1a: Knowing and understanding young children's characteristics and needs, from birth through Age 8.
1b: Knowing and understanding the multiple influences on early development and learning.
1c: Using developmental knowledge to create healthy, respectful, supportive, and challenging learning environments for young children.

Standard 2. Building family and community relationships
2a: Knowing about and understanding diverse family and community characteristics.=
2b: Supporting and engaging families and communities through respectful, reciprocal relationships.
2c: Involving families and communities in young children's development and learning.

Standard 3. Observing, documenting, and assessing to support young children and families
3a: Understanding the goals, benefits, and uses of assessment – including its use in development of appropriate goals, curriculum, and teaching strategies for young children.
3b: Knowing about assessment partnerships with families and with professional colleagues to build effective learning environments.
3c: Knowing about and using observation, documentation, and other appropriate assessment tools and approaches, including the use of technology in documentation, assessment and data collection.
3d: Understanding and practicing responsible assessment to promote positive outcomes for each child, including the use of assistive technology for children with disabilities.

Standard 4. Using developmentally effective approaches
4a: Understanding positive relationships and supportive interactions as the foundation of their work with young children.
4b: Knowing and understanding effective strategies and tools for early education, including appropriate uses of technology.
4c: Using a broad repertoire of developmentally appropriate teaching /learning approaches.
4d: Reflecting on own practice to promote positive outcomes for each child.

Standard 5. Using content knowledge to build meaningful curriculum
5a: Understanding content knowledge and resources in academic disciplines: language and literacy; the arts – music, creative movement, dance, drama, visual arts; mathematics; science, physical activity, physical education, health and safety; and social studies.
5b: Knowing and using the central concepts, inquiry tools, and structures of content areas or academic disciplines.
5c: Using own knowledge, appropriate early learning standards, and other resources to design, implement, and evaluate developmentally meaningful and challenging curriculum for each child.

Standard 6. Becoming a professional
6a: Identifying and involving oneself with the early childhood field.
6b: Knowing about and upholding ethical standards and other early childhood professional guidelines.|
6c: Engaging in continuous, collaborative learning to inform practice; using technology effectively with young children, with peers, and as a professional resource.
6d: Integrating knowledgeable, reflective, and critical perspectives on early education.
6e: Engaging in informed advocacy for young children and the early childhood profession.

Standard 7. Early childhood field experiences
7a. Opportunities to observe and practice in at least two of the three early childhood age groups (birth – age 3, 3-5, 5-8).
7b. Opportunities to observe and practice in at least two of the three main types of early education settings (early school grades, child care centers and homes, Head Start programs).

### Accreditation, Certification, and Licensure

#### Accreditation

National Association of the Education of Young Children
Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

#### Certification and Licensure

With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

#### Course Delivery Format

Courses in Early Childhood Education are delivered face to face, online and hybrid (face to face and online combination). All ECE courses have practical applications in field experience settings in childcare and Pre-K-Grade 3.

#### Requirements for Early Childhood Special Education Endorsement: 9 Credits

- ECE 325 - Inclusion and the Diverse Learner Credits: 3
- ECE 470 - Early Childhood Inclusion Strategies Credits: 3
- ECE 495 - Practicum (COM) Credits: 1-12 (3 credits required)

# Majors

## Advertising (B.A./B.S.)

### Program Coordinator/Contact

Joshua Westwick, Director
School of Communication and Journalism
Yeager Hall 211
605-688-4171

### Program Information

A major in advertising will prepare students with effective written and visual communication, critical thinking, strategy, design, and research skills. Through coursework and experiential learning experiences, including a required internship, graduates gain experience working on teams to develop solutions for applied projects, clients, and competitive campaigns.

### Student Learning Outcomes

Students completing an advertising major will be equipped to:

- Apply the principles and laws of freedom of speech and press, in a global context, and for the country in which the institution that invites ACEJMC is located;
- Demonstrate an understanding of the multicultural history and role of professionals and institutions in shaping communications;
- Demonstrate culturally proficient communication that empowers those traditionally disenfranchised in society, especially as grounded in race, ethnicity, gender, sexual orientation and ability, domestically and globally, across communication and media contexts;
- Present images and information effectively and creatively, using appropriate tools and technologies;
- Write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve;
- Demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness and diversity;
- Apply critical thinking skills in conducting research and evaluating information by methods appropriate to the communications professions in which they work;
- Effectively and correctly apply basic numerical and statistical concepts;
- Critically evaluate their own work and that of others for accuracy and fairness, clarity, appropriate style and grammatical correctness;
- Apply tools and technologies appropriate for the communications professions in which they work.

### Academic Requirements

Advertising majors must have a GPA of 2.5 in required courses for the major, and must have grades of "C" or better in all major requirements. Students can not pursue a double major in any combination of Advertising, Journalism, or Public Relations. Students may pursue minors within the School of Communication and Journalism.

### Accreditation, Certification, and Licensure

Advertising majors must have a GPA of 2.5 in required courses for the major, and must have grades of "C" or better in all major requirements. Students can not pursue a double major in any combination of Advertising, Journalism, or Public Relations. Students may pursue minors within the School of Communication and Journalism.

### Equipment and Supplies

Advertising majors must have a laptop and appropriate software to successfully complete the coursework and be adequately prepared for their professional careers. Apple Macs are the dominant choice in the industry. Necessary software includes Adobe Creative Cloud and Microsoft Word-compatible word processing software, as well as presentation and spreadsheet software, such as PowerPoint and Excel.

### Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

### Requirements for Advertising Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- ADV 370 - Advertising Principles (COM) Credits: 3
- ADV 371-371L - Advertising Copy and Design and Studio (COM) Credits: 3
- ADV 372-372L - Advertising Media Strategies and Lab Credits: 3
- ADV 442-442L - Integrated Marketing Communication and Campaigns Studio (COM) Credits: 3 (Capstone)
- MCOM 119 - First-Year Seminar in Communication and Journalism Credits: 2
- MCOM 210-210L - Basic Newswriting and Lab (COM) Credits: 3
- MCOM 220-220L - Introduction to Digital Media and Lab (COM) Credits: 3
- MCOM 270 - Data Analysis in Communication Credits: 3
- MCOM 331-331L - Video Production and Lab (COM) Credits: 3
- MCOM 394 - Internship (COM) Credits: 1-12 (3 credits required) or MCOM 494 - Internship (COM) Credits: 1-12 (3 credits required)
- MCOM 416-516 - Mass Media in Society Credits: 3 or ADV 476-576 - Global and Multicultural Advertising Credits: 3
- MCOM 430-530 - Media Law (COM) Credits: 3

### Select from the following

Select from the following. Credits: 9

- ADV 314 - Digital Promotions Credits: 3
- ADV 411-411L - Media Analytics and Studio Credits: 3
- ADV 472 - Research and Planning (COM) Credits: 3
- CMST 422 - Persuasion (COM) Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- MCOM 265-265L - Basic Photography and Lab (COM) Credits: 3
- MCOM 359-359L - Mobile Media Design and Applications and Lab Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3
- PUBR 345 - Public Relations Writing Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

| | |
|---|---|
| **Bachelor of Arts** | |
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 44 Credit Hours |
| Electives** | 37 Credit Hours |
| **Bachelor of Science** | |
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 44 Credit Hours |
| Electives** | 39 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Advertising (B.A.)
- Advertising (B.S.)

## Agricultural & Biosystems Engineering (B.S.)

### Program Coordinator/Contact

Van Kelley, Department Head
Department of Agricultural and Biosystems Engineering
Raven Precision Agriculture Center 136
605-688-5143

Kristen Stuckey, Program Coordinator
Raven Precision Agriculture Center 136
605-688-5144

### Program Information

Agricultural and Biosystems Engineering is the science of engineering applied to the products and processes of agriculture and related industries. Design projects solicited from industry provide students with relevant "real world" design experience. This provides hands on learning in variety of technical areas such as natural resource management, irrigation and drainage, water resources development, machine dynamics and design, precision agriculture, agricultural power, properties and processing of biological materials, environmental control for livestock, indoor air quality, structures, control and disposal of agricultural wastes, computers, or instrumentation. To earn the Bachelor of Science Degree in Agricultural and Biosystems Engineering, students must have an average grade of "C" or better in courses taken and required in the ABE curriculum and take the Fundamentals of Engineering examination prior to graduation.

### Program Educational Objectives

A few years after graduation, SDSU ABE graduates will:

- Use methods of analysis involving use of mathematics, fundamental physical and biological sciences, and the computer skills needed for the practice of agricultural and biosystems engineering.
- Practice design skills, including the ability to think creatively, to formulate problem statements, to communicate effectively, to synthesize information, and to evaluate and implement problem solutions both individually and in team settings.

- Address issues of ethics, safety, professionalism, diversity, globalization, environmental impact, and social and economic impact in engineering practice.
- Contribute to agricultural profitability and enhance environmental and biological systems through the development, adaptation, and proper use of improved and safer engineering technologies, production systems, and management practices.

### Student Outcomes

Graduates of the Agricultural and Biosystems Engineering program will have:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

### Accreditation, Certification, and Licensure

The Agricultural and Biosystems Engineering (B.S.) program at SDSU is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org.

The Fundamentals of Engineering examination is a national licensure examination that covers material taught in an ABET-accredited engineering program. Completion of the exam prior to graduation is a requirement for the B.S. in Agricultural and Biosystems Engineering program and required for any engineering graduate who wishes to become licensed as a Professional Engineer.

### Course Delivery Format

The ABE program engages students in lecture, laboratory, and field based learning experiences. Senior students are members of design teams which design, build, test and demonstrate engineered products and processes.

### Requirements for Agricultural and Biosystems Engineering Major: 130 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3 [1]
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4 and PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4

### Major Requirements

- ABE 101 - Introduction to Agricultural and Biosystems Engineering Credits: 1
- ABE 132 - Engineering Tools for Agricultural and Biological Engineers Credits: 1
- ABE 222 - Project Development for Agricultural and Biological Engineers Credits: 1
- ABE 314-314L - Ag Power and Machines and Lab Credits: 4 [3]
- ABE 324-324L - Ag Structures and Indoor Environment and Lab Credits: 4 [3]
- ABE 343-343L - Engineering Properties of Biological Materials and Lab Credits: 3
- ABE 411 - Design Project III Credits: 2
- ABE 422 - Design Project IV Credits: 2
- ABE 434-434L/534-534L - Natural Resources Engineering and Lab Credits: 4 [3]
- ABE 444-444L/544-544L - Unit Operations of Biological Materials Processing and Lab Credits: 4 [3]
- ABE 463-463L - Instrumentation for Agricultural and Biological Systems and Lab Credits: 3
- ABE 464-464L - Monitoring and Controlling Agriculture and Biological Systems and Lab Credits: 2
- ABE 494 - Internship (COM) Credits: 1-6 (2 credits required)
  or ABE 496 - Field Experience (COM) Credits: 1-6 (2 credits required)
  or ABE 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3 (2 credits required)
- BIOL 103-103L - Biology Survey II and Lab (COM) [SGR #6] Credits: 3
- CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1
  or CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CSC 130 - Visual Basic Programming (COM) Credits: 3
  or CSC 150 - Computer Science I (COM) Credits: 3
- EE 300-300L - Basic Electrical Engineering I and Lab Credits: 3
- EM 214 - Statics (COM) Credits: 3
- EM 215 - Dynamics Credits: 3
- EM 321 - Mechanics of Materials (COM) Credits: 3
- EM 331 - Fluid Mechanics (COM) Credits: 3
- GE 101 - Introduction to Engineering and Technical Professions Credits: 1
- GE 121 - Engineering Design Graphics I Credits: 1
- GE 123 - Computer Aided Drawing Credits: 1
- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3
  or STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
  or STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
- ME 314 - Thermodynamics Credits: 3

### Electives

The electives for each student must be approved by the advisor and will include 14-15 credit hours of technical electives, at least 6 credits from 300 or above level courses in the College of Engineering. Credits: 14-15

- ABE 491 - Independent Study (COM) Credits: 1-3
- ABE 492-592 - Topics (COM) Credits: 1-4
- ABE 494 - Internship (COM) Credits: 1-6
- ABE 496 - Field Experience (COM) Credits: 1-6
- ABE 497 - Cooperative Education (COM) Credits: 1-6
- CEE 225 - Principles of Environmental Science and Engineering Credits: 3
- CSC 314 - Assembly Language (COM) Credits: 3
- CSC 317 - Computer Organization and Architecture (COM) Credits: 3
- EE 422 - Engineering Economics and Management Credits: 2 [2]
- GE 210 - Geometric Dimensioning and Tolerancing Credits: 2
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3
- MNET 220-220L - Parametric Modeling and Design and Lab Credits: 3
- PRAG 340 - Climate Risk Management with Precision Agriculture Credits: 3
- PRAG 410-410L/510-510L - Soil Geography and Land Use Interpretation and Lab Credits: 2, 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Food and Biomaterials Engineering Emphasis

- AS 441-541 - Advanced Meat Science Credits: 3
- AS 445-445L - Value-Added Meat Products and Lab Credits: 3
- CEE 323 - Water Supply and Wastewater Engineering Credits: 3
- CEE 424-524 - Industrial Waste Treatment Credits: 3
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- DS 321-321L - Dairy Product Processing I and Lab Credits: 5
- DS 322-322L - Dairy Product Processing II and Lab Credits: 5
- DS 421-421L - Dairy Plant Management and Lab Credits: 4
- FS 351-351L - Principles of Food Processing and Lab Credits: 3
- FS 400-400L/500-500L - Food Chemistry and Analysis and Lab Credits: 5

- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- MICR 311-311L - Food Microbiology and Lab Credits: 4
- NUTR 341-341L - Food Science for Nutrition and Dietetics and Lab Credits: 4

### Power and Machinery Emphasis

- ABE 350-350L - Hydraulic and Pneumatic Systems and Lab Credits: 3
- ME 321 - Fundamentals of Machine Design Credits: 3
- ME 323 - Vibrations Credits: 3
- ME 341-341L - Metallurgy and Lab Credits: 3
- ME 362 - Industrial Engineering Credits: 3
- ME 412-512 - Internal Combustion Engines Credits: 3
- ME 415 - Heat Transfer Credits: 3
- ME 421 - Design of Machine Elements Credits: 3
- ME 438-438L - Machine Design-Case Studies and Lab Credits: 3
- PS 462-462L/562-562L - Environmental Soil Management and Lab Credits: 3

### Structures and Environment Emphasis

- CEE 346-346L - Geotechnical Engineering (COM) and Lab Credits: 4
- CEE 353 - Structural Theory (COM) Credits: 3
- CEE 455 - Steel Design Credits: 3
- CEE 456 - Concrete Theory and Design (COM) Credits: 3
- CEE 482 - Engineering Administration Credits: 3 [2]
- ME 410-510 - Principles of HVAC Engineering Credits: 3
- ME 415 - Heat Transfer Credits: 3
- ME 439-439L/539-539L - HVAC System Design and Lab Credits: 3
- ME 451 - Automatic Controls Credits: 3
- MNET 220-220L - Parametric Modeling and Design and Lab Credits: 3

### Water and Natural Resources Engineering Emphasis

- AST 463-563 - Agricultural Waste Management Credits: 3
- CEE 106-106L - Elementary Surveying and Lab Credits: 3, 1
- CEE 225 - Principles of Environmental Science and Engineering Credits: 3
- CEE 323 - Water Supply and Wastewater Engineering Credits: 3
- CEE 434-534 - Hydrology Credits: 3
- CEE 346-346L - Geotechnical Engineering (COM) and Lab Credits: 4
- CEE 423-523 - Municipal Water Distribution and Collection System Design Credits: 3
- CEE 432 - Hydraulic Engineering Credits: 3
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- PS 462-462L/562-562L - Environmental Soil Management and Lab Credits: 3
- PS 483-583 - Irrigation – Crop and Soil Practices Credits: 3

### Total Required Credits: 130

### Curriculum Notes

[1]Required to receive a "C" or better in ENGL 277.
[2]Technical elective credit not given for both CEE/CM 482 and EE 422.
[3]Students must take these courses, with the exception that they may choose to replace one of these four Agricultural and Biosystems Engineering courses with four additional technical elective credits (300 or higher in the College of Engineering) in addition to the basic technical elective requirements.

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Major Requirements | 82-83 Credit Hours |
| Electives** | 14-15 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Agricultural and Biosystems Engineering (B.S.)

## Agricultural Business (B.S.)

### Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The major in Agricultural Business prepares students to excel in the challenging environment of the modern agricultural industry. Graduates are creative, adaptable, and well educated in economics and management. The program combines education in management and economics with a strong technical knowledge in production agriculture and skills in problem solving. The curriculum emphasizes economic theory, agricultural business management, quantitative methods, and agricultural and biological science electives. Students interested in pursuing a graduate degree in agricultural economics, agri-business, or related fields are well prepared by this degree program.

### Student Learning Outcomes

Graduates will:

- Be able to use analytical methods to make effective decisions.
- Be able to communicate effectively.
- Be able to evaluate matters of ethics in the profession and the culture more broadly.
- Have the requisite body of knowledge in management and economics.

### Academic Requirements

Students must earn a grade of "C" or better in CSC/MGMT 325 - Management Information Systems (COM), FIN 310 - Business Finance (COM), HRM 460 - Human Resource Management (COM), and (MGMT 360 - Organization and Management (COM) or AGEC 371 - Agricultural Business Management).

If a student chooses to double major in two majors offered through the Ness School of Management and Economics (Economics, Agricultural Business, Business Economics and Entrepreneurial Studies), the second major needs to have at least 18 credits that are distinct from the first major.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Agricultural Business Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5 or MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- ABS 203 - Global Food Systems [SGR #3] Credits: 3
- AGEC 354 - Agricultural Marketing and Prices Credits: 3 (Major Requirement)
- Group 1 Courses in Agriculture Credits: 5

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3

- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AGEC 371 - Agricultural Business Management Credits: 3
  or MGMT 360 - Organization and Management (COM) Credits: 3
- AGEC 479-579 - Agricultural Policy Credits: 3
- AGEC 485-585 - Farming and Food Systems Economics Credits: 3
- AGEC Electives Credits: 9
- BADM 101 - Survey of Business (COM) Credits: 3
- BADM 321 - Business Statistics II (COM) Credits: 3
  or DSCI 424 - Operations Research (COM) Credits: 3
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- ECON 119 - First Year Seminar Credits: 1
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- ECON 301 - Intermediate Microeconomics (COM) Credits: 3
  or ECON 431 - Managerial Economics Credits: 3
- ECON 302 - Intermediate Macroeconomics (COM) Credits: 3
  or ECON 330 - Money and Banking (COM) Credits: 3
- ECON 319 - Seminar with Industry Leaders Credits: 1
- ENGL 379 - Technical Communication (COM) Credits: 3
- FIN 310 - Business Finance (COM) Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT/ CSC 325 - Management Information Systems (COM) Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 31-32 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 68 Credit Hours |
| Electives** | 12-13 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Agricultural Business (B.S.)

## Agricultural Education, Communication & Leadership (B.S.) - Agricultural Education Specialization

### Program Coordinator/Contact

Mary Christensen, Coordinator
Agricultural Leadership, Education, Communication and Science (ALECS)
Berg Agricultural Hall 156
605-688-5133

P. Troy White, Assistant Professor
School of Education, Counseling and Human Development
Wenona Hall 106
605-688-4546

### Program Information

The Agricultural Education, Communication and Leadership Major is a multidisciplinary program that provides a strong foundation in agricultural sciences. The major allows students the flexibility to select a plan of study based on their interests and skills by choosing one of three specializations: Education, Communication, or Leadership. Students in the Agricultural Education specialization will complete a professional education curriculum, as well as supportive instruction in technical agriculture, basic science, and other competencies. Graduates of the Education Specialization will qualify for a secondary teaching certificate and will also be prepared for a variety of careers in the agricultural industry.

### Student Learning Outcomes

Upon completion of the Agricultural Education Specialization of the Agricultural Education, Communication, and Leadership Major, students will:

- Demonstrate knowledge and skill across the broad field of the Agricultural, Food, and Natural Resources industries.
- Demonstrate and apply educational content knowledge related to effective teaching and learning of diverse groups of secondary students.
- Explain the importance of and show evidence of ethical and professional behaviors.
- Locate and evaluate information to solve real world problems.
- Evaluate core competencies and create plans for effective lifetime learning.
- Demonstrate effective written and oral communications skills.
- Evaluate a diverse spectrum of agriculturally related global challenges to communicate culturally responsible solutions to a variety of audiences.

### Academic Requirements

- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's Secondary preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Most courses are delivered by traditional lecture/format, and some are offered by online delivery.

### Requirements for Agricultural Education, Communication and Leadership Major - Agricultural Education Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3 and ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 (recommended) or ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credit: 3
- Goal #6 Natural Sciences: BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the

approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- AGEC 271 - Farm and Ranch Management Credits: 3 (Major Requirement)
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1 (Major Requirement)
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3 (Major Requirement)
- AST 202-202L - Construction Technology and Materials and Lab Credits: 2 (Major Requirement)

### Major Requirements

- AGEC 271 - Farm and Ranch Management Credits: 3
- AGED 119 - First Year Seminar Credits: 2
- AGED 404-404L - Methods in Agricultural Education and Lab Credits: 3, 1
- AGED 408 - Supervision of Work Experience and Youth Organizations Credits: 2
- AGED 431-531 - Work Based Learning Credits: 2
- AGED 491 - Independent Study (COM) Credits: 1-3 (1 credit Welding)
- AGED 494 - Internship (COM) Credits: 1-12 (1 credit required)
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 3
  or AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AST 202-202L - Construction Technology and Materials and Lab Credits: 2
- AST 211-211L - Ag and Outdoor Power for Teachers and Lab Credits: 1
- AST 311-311L - Applied Electricity for Teachers and Lab Credits: 1
- BIOL 103-103L - Biology Survey II and Lab (COM) [SGR #6] Credits: 3
- DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
  or DS 231 - Dairy Foods Credits: 3
  or FS 101 - Introduction to Food Science Credits: 3
  or FS 251 - Food Safety and Quality Management Systems Credits: 3
- HO 111-111L - Introduction to Horticulture and Lab Credits: 2, 1
  or HO 413-413L/513-513L - Greenhouse and High Tunnel Management and Lab Credits: 3
- NRM 110 - People and the Environment Credits: 3
  or RANG 205 - Introduction to Range Management [SGR #6] Credits: 3
  or WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- PS 103-103L - Crop Production and Lab Credits: 2, 1
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1

### Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- AGED 295 - Practicum (COM) Credits: 1
- AGED 405 - Philosophy of Career and Technical Education Credits: 2
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Electives

Additional elective courses in agriculture or related fields required to reach the 120 hours required for graduation. Contact advisor for approved agricultural related electives.

### Total Required Credits: 120

### Summary of Program Requirements

### Bachelor of Science

| | |
|---|---|
| System General Education Requirements | 31 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 47 Credit Hours |
| Teaching Specialization Requirements | 33 Credit Hours |
| Electives** | 9 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Agricultural Education, Communication and Leadership (B.S.) - Agricultural Education Specialization

## Agricultural Education, Communication & Leadership (B.S.) - Communication Specialization

### Program Coordinator/Contact

Mary Christensen, Coordinator
Agricultural Leadership, Education, Communication and Science (ALECS)
Berg Agricultural Hall 156
605-688-5133

Joshua Westwick, Director
School of Communication and Journalism
Yeager Hall 211
605-688-4171

### Program Information

The Agricultural Education, Communication and Leadership Major is a multidisciplinary program that provides a strong foundation in agricultural sciences. The major allows students the flexibility to select a plan of study based on their interests and skills by choosing one of three specializations: Education, Communication, or Leadership. Students specializing in communication take courses in agriculture along with courses in the School of Communication and Journalism.

Graduates of the Communication specialization report agricultural information to farmers and ranchers, consumers, governmental agencies, agribusinesses, commodity groups, and legislators through positions in public relations, sales, marketing, journalism, social media, and the government.

### Student Learning Outcomes

Upon completion of the Communication Specialization of the Agricultural Education, Communication, and Leadership Major, students will:

- Demonstrate knowledge and skill across the broad field of the Agricultural, Food, and Natural Resources industries.
- Demonstrate and apply in-depth knowledge of journalism and mass communication.
- Explain the importance of and show evidence of ethical and professional behaviors.
- Locate and evaluate information to solve real world problems.
- Evaluate core competencies and create plans for effective lifetime learning.
- Demonstrate effective written and oral communication skills.
- Evaluate a diverse spectrum of agriculturally related global challenges to communicate culturally responsible solutions to a variety of audiences.

### Equipment and Supplies

Agricultural Communication students need a laptop and appropriate software to successfully complete the coursework and be adequately prepared for their professional careers. Apple Macs are the dominate choice in the industry. Necessary software includes Adobe Creative Cloud and Microsoft Word-compatible word processing software, as well as presentation and spreadsheet software, such as PowerPoint and Excel.

### Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

### Requirements for Agricultural Education, Communication and Leadership Major - Communication Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Elective Credits: 3 and ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 (recommended) or ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1 (Major Requirement)
- PS 103-103L - Crop Production and Lab Credits: 2, 1 (Major Requirement)
- Group 1 Courses in Agriculture Credits: 4

### Major Requirements

- ADV 370 - Advertising Principles (COM) Credits: 3
- AGED 119 - First Year Seminar Credits: 2
  or MCOM 119 - First-Year Seminar in Communication and Journalism Credits: 2
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
- CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
  or CMST 410-510 - Organizational Communication (COM) Credits: 3
- MCOM 210-210L - Basic Newswriting and Lab (COM) Credits: 3
- MCOM 220-220L - Introduction to Digital Media and Lab (COM) Credits: 3
- MCOM 265-265L - Basic Photography and Lab (COM) Credits: 3
  or MCOM 331-331L - Video Production and Lab (COM) Credits: 3
- MCOM 316 - Magazine Writing and Editing Credits: 3
  or MCOM 336 - Feature Writing Credits: 3
  or PUBR 345 - Public Relations Writing Credits: 3
- MCOM 394 - Internship (COM) Credits: 1-12 (3 credits required)
  or MCOM 494 - Internship (COM) Credits: 1-12 (3 credits required)
- MCOM 430-530 - Media Law (COM) Credits: 3
- MCOM 434 - Advanced Multiplatform Storytelling (COM) Credits: 3
- PS 103-103L - Crop Production and Lab Credits: 2, 1

### Capstone Requirements

Select one of the following. Credits: 3-4

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3
- AGEC 471-571 - Advanced Farm & Ranch Management Credits: 3
- AS 389 - Current Issues in Animal Science Credits: 3
- DS 480-480L/580-580L - Dairy Farm Operations I and Lab Credits: 4
- DS 481-481L/581-581L - Dairy Farm Operations II and Lab Credits: 4
- HO 434-534 - Local Food Production Credits: 2
- HO 435 - Local Food Production: Harvest and Storage Credits: 2
- PRAG 440-440L/540-540L - Crop Management with Precision Farming and Lab Credits: 3
- RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4

### Electives

- Agricultural Elective Credits: 9
  Select from the following disciplines: ABS, AGEC, AGED, AS, AST, DS, EES, FS, HO, NRM, PRAG, PS, RANG, VET, or WL
- ADV, MCOM, or PUBR Elective Credits: 9
- Electives Credits: 27-29

### Total Required Credits: 120

### Notes

Students must have at least 25 credits in 300+ level courses, excluding internships, cooperative education, or field experience courses.

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 31 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 38-40 Credit Hours |
| Electives** | 45-47 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Agricultural Education, Communication and Leadership (B.S.) - Communication Specialization

## Agricultural Education, Communication & Leadership (B.S.) - Leadership Specialization

### Program Coordinator/Contact

Mary Christensen, Coordinator
Agricultural Leadership, Education, Communication and Science (ALECS)
Berg Agricultural Hall 156
605-688-5133

### Program Information

The Agricultural Education, Communication and Leadership Major is a multidisciplinary program that provides a strong foundation in agricultural sciences. The major allows students the flexibility to select a plan of study based on their interests and skills by choosing one of three specializations: Education, Communication, or Leadership. Graduates of the Agricultural Education, Communication and Leadership Major - Leadership specialization will be well prepared for employment with agricultural organizations such as breed associations and commodity organizations.

### Student Learning Outcomes

Upon completion of the Leadership Specialization of the Agricultural Education, Communication, and Leadership Major, students will:

- Demonstrate knowledge and skill across the broad field of the Agricultural, Food, and Natural Resources industries.
- Demonstrate and apply in-depth knowledge of leadership principles.
- Upon completion of the program students will explain the importance of and show evidence of ethical and professional behaviors.
- Locate and evaluate information to solve real world problems.
- Evaluate core competencies and create plans for effective lifetime learning.
- Demonstrate effective written and oral communication skills.
- Evaluate a diverse spectrum of agriculturally related global challenges to communicate culturally responsible solutions to a variety of audiences.

### Course Delivery Format

Most courses are delivered by traditional lecture/format, and some are offered by online delivery.

### Requirements for Agricultural Education, Communication and Leadership Major - Leadership Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Elective Credits: 3 and ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 (recommended) or ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- ABS 203 - Global Food Systems [SGR #3] Credits: 3 (Major Requirement)
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1 (Major Requirement)
- PS 103-103L - Crop Production and Lab Credits: 2, 1 (Major Requirement)
- Group 1 Courses in Agriculture Credits: 1

### Major Requirements

- ABS 203 - Global Food Systems [SGR #3] Credits: 3
- ABS 482-582 - International Experience Credits: 2-4
  or XXX 494 - Internship Credits: 2-4
  or XXX 498 - Undergraduate Research Credits: 2-4
- AGEC 479-579 - Agricultural Policy Credits: 3
- AGED 119 - First Year Seminar Credits: 2
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
- CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
  or CMST 410-510 - Organizational Communication (COM) Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3
- LDR 310 - Leadership in Context (COM) Credits: 3
- LDR 410 - Leadership: Senior Seminar Credits: 1
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- LDR 496 - Field Experience (COM) Credits: 2 (Leadership in Action)
- PS 103-103L - Crop Production and Lab Credits: 2, 1

### Capstone Requirement

Select one of the following. Credits: 3-4

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3
- AGEC 471-571 - Advanced Farm & Ranch Management Credits: 3
- AS 389 - Current Issues in Animal Science Credits: 3
- DS 480-480L/580-580L - Dairy Farm Operations I and Lab Credits: 4
- DS 481-481L/581-581L - Dairy Farm Operations II and Lab Credits: 4
- HO 434-534 - Local Food Production Credits: 2
- HO 435 - Local Food Production: Harvest and Storage Credits: 2
- PRAG 440-440L/540-540L - Crop Management with Precision Farming and Lab Credits: 3
- RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4

### Electives

- Agricultural Electives - select from the following disciplines: ABS, AGEC, AGED, AS, AST, DS, EES, FS, HO, NRM, PRAG, PS, RANG, VET, or WL. Credits: 9
- Electives: 42-45

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 31 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 34-37 Credit Hours |
| Electives** | 51-54 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Agricultural Education, Communication and Leadership (B.S.) - Leadership Specialization

## Agricultural Science (A.S.)

### Program Coordinator/Contact

Mary Christensen, Coordinator
Agricultural Leadership, Education, Communication and Science (ALECS)
Berg Agricultural Hall 156
605-688-5133

### Program Information

The two-year Agricultural Science program is designed for the student who does not find it advisable or possible to enter a regular four-year college program in Agriculture Science. A typical student in this situation could be one who desires some education but not necessarily four years before returning to the farm or ranch. Courses in the major field of concentration must be from departments within the College of Agriculture, Food and Environmental Sciences and be related to agriculture. All courses in the major field of concentration need not be in one department, although this may be a possibility.

General electives may be selected from any area and allow students to develop special competencies or interests. Students should consult their advisor when selecting courses in the major field of concentration. These courses should relate to career interests.

### Student Learning Outcomes

Upon completion of the A.S. degree in Agricultural Science, students will:

- Integrate knowledge across various academic disciplines and apply to agricultural careers.
- Locate and evaluate information to aid in decision making.
- Recognize the importance of continued learning in relation to their profession.
- Identify diverse perspectives and understand global challenges in agriculture.
- Demonstrate critical thinking and problem solving skills.

### Course Delivery Format

Courses are delivered in lecture, laboratory, and field-based formats, and some are offered by online delivery.

### Requirements for Agricultural Science Major: 60 Credits

*Associate of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and SGR #1 Elective Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 3-6*
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 3-6*
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 3-6*

*Three additional credits selected from approved list of courses for Goals #3, #4, or #6 to reach 24 System General Education Requirements for the Associate Degree.

### Major Requirements

- Major Field of Concentration (Courses prefixed ABS, AGEC, AGED, AS, AST, DS, EES, FS, HO, NRM, PRAG, PS, RANG, VET, and WL) Credits: 16
- ABS 119 - First Year Seminar Credits: 2

### Electives

### Total Required Credits: 60

### Summary of Program Requirements

### Associate of Science

| | |
|---|---|
| System General Education Requirements | 24 Credit Hours |
| Major Requirements | 18 Credit Hours |
| Electives** | 18 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Agricultural Science (A.S.)

## Agricultural Science (B.S.)

### Program Coordinator/Contact

Mary Christensen, Coordinator
Agricultural Leadership, Education, Communication and Science (ALECS)
Berg Agricultural Hall 156
605-688-5133

### Program Information

The Agricultural Science curriculum is designed for the student undecided as to a specific major field of study within the area of agriculture, or who may want to combine multiple fields of study within agriculture, or plans to return to the farm or ranch after college. A large number of free electives are available allowing the student to take courses in the different disciplines needed for a diversified career or to manage a production unit.

General electives may be selected from any area and allow students to develop special competencies or interests. When qualifying for a Bachelor of Science degree a student may, through a choice of electives, complete courses in business, prepare for graduate study, or enroll in special areas of study such as plant and/or animal science.

### Student Learning Outcomes

Upon completion of the B.S. degree in Agricultural Science, students will:

- Integrate knowledge across various academic disciplines and apply to agricultural careers.
- Locate and evaluate information to aid in decision-making.
- Recognize the importance of continued learning in relation to their profession.
- Consider diverse perspectives and understand global challenges in agriculture.
- Demonstrate critical thinking and problem solving skills.
- Explain benefits of an agricultural minor or chosen emphasis.
- Articulate their role in the agricultural industry through effective written and oral communication skills.

### Course Delivery Format

Courses are delivered in lecture, laboratory, and field-based formats, and some are offered by online delivery.

### Requirements for Agricultural Science Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Elective Credits: 3 and ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 (recommended) or ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- AGEC 271 - Farm and Ranch Management Credits: 3
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
  or AS 102 - Fundamentals of Animal Science Credits: 3
  or DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
- PS 103-103L - Crop Production and Lab Credits: 2, 1
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1

### Major Requirements

- ABS 119 - First Year Seminar Credits: 2
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
  or STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AS 218 - Survey of Animal Nutrition Credits: 3
  or AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3
- AS 332 - Livestock Breeding and Genetics Credits: 4
  or PS 383-383L - Principles of Crop Improvement and Lab Credits: 3
  or BIOL 371 - Genetics (COM) Credits: 3
- BIOL 103-103L - Biology Survey II and Lab (COM) [SGR #6] Credits: 3
  or BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3
  or PRAG 203-203L - Introduction to Precision Agriculture and Lab Credits: 3
  or RANG 205 - Introduction to Range Management [SGR #6] Credits: 3

### Agriculture Electives

Complete six credits with the prefix(es) of ABE, ABS, AST, DS, EES, FS, HO, NRM, PRAG, RANG, VET, or WL. Credits: 6

### Ag Product Electives

Select at least one class from the following courses. Credits: 2-3

- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 3
- DS 231 - Dairy Foods Credits: 3
- FS 101 - Introduction to Food Science Credits: 3
- PS 308-308L - Grain Grading and Lab Credits: 1, 1
- PS 312 - Grain and Seed Production and Processing Credits: 3
- PS 403-403L/503-503L - Seed Technology and Lab Credits: 2, 1

### Business Electives

Select one of the following courses. Credits: 3

- AGEC 274 - Agribusiness Sales Credits: 3
- AGEC 352 - Agricultural Law Credits: 3
- AGEC 462-562 - Environmental Law Credits: 3
- AGEC 364 - Introduction to Cooperatives Credits: 3
- AGEC 366 - Food Law Credits: 3
- AGEC 371 - Agricultural Business Management Credits: 3
- FIN 280 - Personal Finance (COM) Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3
- MKTG 474 - Personal Selling (COM) Credits: 3

### Capstone Electives

Select one of the following courses. Credits: 3-4

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3
- AGEC 471-571 - Advanced Farm & Ranch Management Credits: 3
- AS 389 - Current Issues in Animal Science Credits: 3
- DS 480-480L/580-580L - Dairy Farm Operations I and Lab Credits: 4
- DS 481-481L/581-581L - Dairy Farm Operations II and Lab Credits: 4
- HO 434-534 - Local Food Production Credits: 2
- HO 435 - Local Food Production: Harvest and Storage Credits: 2
- PRAG 440-440L/540-540L - Crop Management with Precision Farming and Lab Credits: 3
- RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 31 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 30-34 Credit Hours |
| Electives** | 42-47 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Agricultural Science (B.S.)

## Agricultural Systems Technology (B.S.)

### Program Coordinator/Contact

Van Kelley, Department Head
Department of Agricultural and Biosystems Engineering
Raven Precision Agriculture Center 136
605-688-5143

Kristen Stuckey, Program Coordinator
Raven Precision Agriculture Center 136
605-688-5144

### Program Information

Agricultural Systems Technology graduates serve an increasingly complex agricultural industry in a wide variety of ways. These individuals have a sound fundamental knowledge of agricultural and biological sciences related to the technical, mechanical and energy aspects. This background combined with a solid understanding of the interactions between agriculture and society provides AST graduates many career opportunities. Graduates use their technological knowledge, coupled with managerial and leadership skills, to increase America's food and energy supply, security, and safety. Graduates may pursue careers in renewable energy such as ethanol and bio-diesel, farm machinery and equipment, natural resources, livestock facilities and systems, and production agriculture.

### Student Learning Outcomes

Upon completion of the Agricultural Systems Technology major, students will have:

- the ability to apply knowledge of mathematics and science.
- an ability to design and conduct experiments, as well as to analyze and interpret data.
- an ability to function on multidisciplinary teams.
- an ability to identify, formulate, and solve problems.
- an understanding of professional and ethical responsibility.
- an ability to communicate effectively.
- a recognition of the need for, and an ability to engage in life-long learning.
- a knowledge of contemporary issues.
- an ability to use the techniques, skills, and modern tools necessary to identify solutions to problems.

### Course Delivery Format

The program engages students in lecture, laboratory, and in hands-on, field-based learning experiences.

### Requirements for Agricultural Systems Technology Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3 [1]
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Elective Credits: 3 and ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- AST 333-333L - Soil and Water Mechanics and Lab Credits: 3
- AST 342-342L - Applied Electricity and Lab Credits: 3
- PS 103-103L - Crop Production and Lab Credits: 2, 1
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1 (Major Requirement)

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AST 119 - First Year Seminar Credits: 1
- AST 213-213L - Ag, Industrial and Outdoor Power and Lab Credits: 3
  or AST 313-313L - Farm Machinery Systems Management and Lab Credits: 3
- AST 273-273L - Agricultural Computer Applications and Lab Credits: 3
- AST 390 - Seminar (COM) Credits: 1
- AST 412-412L - Fluid Power Technology and Lab Credits: 3
- AST 423-423L - Rural Structures and Lab Credits: 3
- AST 426-426L - Technology Applications for Precision Agriculture and Lab Credits: 3
- AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3
- AST 463-563 - Agricultural Waste Management Credits: 3
- AST 494 - Internship (COM) Credits: 1-12 (1 credit required)
  or AST 496 - Field Experience (COM) Credits: 1-12 (1 credit required)
  or AST 497 - Cooperative Education (COM) Credits: 1-12 (1 credit required)
- BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- GE 121 - Engineering Design Graphics I Credits: 1
  and GE 123 - Computer Aided Drawing Credits: 1
  or PRAG 427-527 - Precision Ag Data Mapping Credits: 2
- MATH 120 - Trigonometry (COM) [SGR #5] Credits: 3
- PRAG 203-203L - Introduction to Precision Agriculture and Lab Credits: 3
- PRAG 340 - Climate Risk Management with Precision Agriculture Credits: 3
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1

### Technical Electives

Select 32 credits from the following courses. It is strongly recommended that students choose one of the following emphasis areas. Credits: 32

### Business Emphasis

- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- AGEC 271 - Farm and Ranch Management Credits: 3
- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AGEC 454 - Economics of Grain and Livestock Marketing Credits: 3
- AGEC 479-579 - Agricultural Policy Credits: 3
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- Any 200 level or above selected from ACCT, AGEC, AS, BADM, BLAW, ECON, ENTR, FIN, MKTG, PS, STAT Credits: 10
- Science Electives selected from BIOL, CHEM, MICR, PHYS Credits: 3

### Farm Operations Emphasis

- AGEC 271 - Farm and Ranch Management Credits: 3
- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
  or DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
- PRAG 423-523 - Soil Fertility and Plant Nutrient Management Credits: 3
- PRAG 440-440L/540-540L - Crop Management with Precision Farming and Lab Credits: 3
- PS 223-223L - Principles of Plant Pathology and Lab Credits: 2, 1
- PS 405-405L/505-505L - Entomology and Lab (COM) Credits: 3
  or PS 407-407L/507-507L - Insect Pest Management and Lab Credits: 2, 1
- Any 200 level or above courses select from AGEC, AST, BADM, ACCT, AS, ECON, PS, ENTR Credits: 8-9
- Science Electives selected from CHEM, PHYS, BIOL, MICR Credits: 3-4

### Precision Ag Emphasis

- AST 213-213L - Ag, Industrial and Outdoor Power and Lab Credits: 3
  or AST 313-313L - Farm Machinery Systems Management and Lab Credits: 3
- CSC 130 - Visual Basic Programming (COM) Credits: 3
- ET 210-210L - Introduction to Electronic Systems Credits: 4
- ET 232-232L - Digital Electronics and Microprocessors and Lab Credits: 3
- ET 240 - Techniques of Servicing Credits: 3
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- GEOG 484-484L/584-584L - Remote Sensing and Lab (COM) Credits: 3
- PRAG 304-304L - Electrical Diagnostics for Farm Machinery and Lab Credits: 3
- PRAG 345-345L - Principles and Implications of Chemical Application Systems and Lab Credits: 3
- PRAG 423-523 - Soil Fertility and Plant Nutrient Management Credits: 3
- PRAG 440-440L/540-540L - Crop Management with Precision Farming and Lab Credits: 3
- Any course 300 level or above selected from AST, CSC, ET, GEOG, PHYS, or PS Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Processing Emphasis

- ABE 343-343L - Engineering Properties of Biological Materials and Lab Credits: 3
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
  or DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- AS 450 - Meat Product Safety and HACCP Credits: 3
- DS 321-321L - Dairy Product Processing I and Lab Credits: 5
- DS 421-421L - Dairy Plant Management and Lab Credits: 4
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- MICR 311-311L - Food Microbiology and Lab Credits: 4
- PS 308-308L - Grain Grading and Lab Credits: 1, 1

### Total Required Credits: 120

### Notes

[1] minimum grade of "C" required in ENGL 201.

### Summary of Program Requirements

#### Bachelor of Science

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |

#### Bachelor of Science

| | |
|---|---|
| Major Requirements | 79 Credit Hours |
| Electives** | 0 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Agricultural Systems Technology (B.S.)

## Agronomy (B.S.)

### Program Coordinator/Contact

David Wright, Department Head
Brent Turnipseed, Assistant Department Head
Hani Ghosheh, Undergraduate Teaching Coordinator
Department of Agronomy, Horticulture, and Plant Science
Raven Precision Agriculture Center 140
605-688-5123 (Department Head, SRPAC 140)
605-688-4450 (Teaching Office, SNP 247)

### Program Information

The Agronomy major provides broad training in the plant and soil sciences and in crop production technology. The integrated program is designed to provide students with an understanding and knowledge base in crops, seeds, soils, weeds, entomology, plant pathology, breeding and genetics, precision agriculture, natural resource management, and the interaction of production systems. This major is recommended for students interested in cropping systems, natural/agricultural resource management, or the agribusiness areas of crops, soils, and pest management. Individuals can prepare for careers in crop consulting, crop/plant research, and with private industry managing agricultural inputs such as pesticides and fertilizers; developing improved seed traits, plant sciences, genomics, grain production, sales, and seed production; and for work with government agencies, such as the Cooperative Extension Service, Farm Service Agency, Agricultural Research Service, and Natural Resources Conservation Service.

### Student Learning Outcomes

Upon completion of the Agronomy major, students will:

- Demonstrate a fundamental understanding of basic Agronomy principles and practices.
- Demonstrate the ability to think creatively and to apply critical thinking skills when evaluating and analyzing information.
- Demonstrate the ability to learn, develop, and apply skills for the application of existing and emerging knowledge and technologies in Agronomy.
- Demonstrate the ability to apply scientific principles, quantitative skills, and other problem solving skills in Agronomy.
- Demonstrate knowledge and application of ethical and sustainable practices in the agronomic fields.
- Demonstrate the ability to effectively communicate (written, listening and oral) with both scientific and non-scientific audiences.

### Accreditation, Certification, and Licensure

- Students seeking Soil Science Certification should contact their advisor and refer to the Soil Science Society of America website.
- Students seeking Certification as a professional agronomist should contact their advisor and refer to the Certified Crop Advisor website.
- Students seeking Seed Analyst Certification should contact their advisor and refer to the Association of Official Seed Analysts and Society of Commercial Seed Technologists website.

### Course Delivery Format

The program coursework is available on campus, in classroom and laboratory settings, as well as field-based settings.

### Requirements for Agronomy Major: 125 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 or ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3 and ABS 203 - Global Food Systems [SGR #3] Credits: 3, SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3, SOC 150 - Social Problems (COM) [SGR #3] Credits: 3, or SOC 240 - The Sociology of Rural America (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5] Credits: 5 or MATH 120 - Trigonometry (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 or BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and BIOL 103-103L - Biology Survey II and Lab (COM) [SGR #6] Credits: 3 or BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4 or BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- PS 103-103L - Crop Production and Lab Credits: 2, 1 (Major Requirement)
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1 (Major Requirement)
- PS 223-223L - Principles of Plant Pathology and Lab Credits: 2, 1 (Major Requirement)
- PS 405-405L/505-505L - Entomology and Lab (COM) Credits: 3 (Major Requirement)
  or PS 407-407L/507-507L - Insect Pest Management and Lab Credits: 2, 1 (Major Requirement)

### Major Requirements

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3 [A]
- AGEC 354 - Agricultural Marketing and Prices Credits: 3
  or AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 3
  or ENGL 379 - Technical Communication (COM) Credits: 3
  or MKTG 474 - Personal Selling (COM) Credits: 3
- BOT 327-327L - Plant Physiology and Lab Credits: 4
  or BOT 419-419L - Plant Ecology and Lab (COM) Credits: 3
- CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1
  or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1
  or CHEM 120-120L - Elementary Organic Chemistry and Lab Credits: 2, 1
- PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4
  or PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
- PRAG 423-523 - Soil Fertility and Plant Nutrient Management Credits: 3 [A]
- PS 103-103L - Crop Production and Lab Credits: 2, 1 [A]
- PS 119 - First Year Seminar Credits: 1 [A]
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1 [A]
- PS 223-223L - Principles of Plant Pathology and Lab Credits: 2, 1 [A]
- PS 285 - Agricultural Computations Credits: 2 [A]
- PS 383-383L - Principles of Crop Improvement and Lab Credits: 3 [2]
  or BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1
  or BIOL 371 - Genetics (COM) Credits: 3
- PS 405-405L/505-505L - Entomology and Lab (COM) Credits: 3 [A]
  or PS 407-407L/507-507L - Insect Pest Management and Lab Credits: 2, 1 [A]
- PS 445-445L/545-545L - Weed Science and Lab Credits: 3 [A]
- PS 490 - Seminar (COM) Credits: 1 [A]
  or HO 490 - Seminar (COM) Credits: 1 [A]
- PS 492 - Topics (COM) Credits: 1-3 (1 credit required)
  and PS 421-421L/521-521L - Soil Microbiology and Lab Credits: 3
  or MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- PS 494 - Internship (COM) Credits: 1-2 [A] (1 credit required)
  or HO 494 - Internship (COM) Credits: 1-12 (1 credit required) [A]
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Natural Resources Stewardship Electives

Select one of the following courses [A]. Credits: 3-4

- ABS 203 - Global Food Systems [SGR #3] Credits: 3 [2]
- ABS 482-582 - International Experience Credits: 2-4
- BIOL 383 - Bioethics (COM) Credits: 4
- PRAG 410-410L/510-510L - Soil Geography and Land Use Interpretation and Lab Credits: 2, 1 [2]
- PS 243 - Principles of Geology [SGR #6] Credits: 3 [2]
- PS 407-407L/507-507L - Insect Pest Management and Lab Credits: 2, 1 [2]
- PS 462-462L/562-562L - Environmental Soil Management and Lab Credits: 3 [2]

### Precision Ag Electives

Select one of the following courses. Credits: 2-3

- AST 426-426L - Technology Applications for Precision Agriculture and Lab Credits: 3
- PRAG 203-203L - Introduction to Precision Agriculture and Lab Credits: 3
- PRAG 427-527 - Precision Ag Data Mapping Credits: 2 [2]
- PRAG 440-440L/540-540L - Crop Management with Precision Farming and Lab Credits: 3 [2]

### Agronomy, Horticulture, and Plant Science Electives

Take at least two credits from each of the three areas listed. Credits: 15

### Crops

- HO/ PS 255-255L - Woody Plants and Lab Credits: 4
- HO/ PS 311-311L - Herbaceous Plants and Lab Credits: 3
- HO/ PS 339 - Arboriculture and Urban Forestry Credits: 3
- HO/ PS 411-511 - Fruit Crop Systems Credits: 1-6
- HO/ PS 413-413L/513-513L - Greenhouse and High Tunnel Management and Lab Credits: 3
- HO/ PS 414-414L/514-514L - Plant Propagation and Lab Credits: 3
- HO/ PS 416-516 - Landscape Nursery Management Credits: 3
- HO/ PS 434-534 - Local Food Production Credits: 2
- HO/ PS 435 - Local Food Production: Harvest and Storage Credits: 2
- HO/ PS 444-544 - Vegetable Crop Systems Credits: 1-6
- PRAG 340 - Climate Risk Management with Precision Agriculture Credits: 3
- PRAG 424-524 - Wheat Production Credits: 2
- PRAG 425-525 - Soybean Production Credits: 2
- PRAG 426-526 - Corn Production Credits: 2
- PRAG 427-527 - Precision Ag Data Mapping Credits: 2
- PRAG 440-440L/540-540L - Crop Management with Precision Farming and Lab Credits: 3
- PS 308-308L - Grain Grading and Lab Credits: 1, 1
- PS 312 - Grain and Seed Production and Processing Credits: 3
- PS 313 - Forage Crop and Pasture Management Credits: 3
- PS 320 - Crop Judging Credits: 1-2 [1] (2 credits required)
- PS 383-383L - Principles of Crop Improvement and Lab Credits: 3 [2]
- PS 403-403L/503-503L - Seed Technology and Lab Credits: 2, 1

### Plant Protection

- HO/ PS 210-210L - Turf and Weed Management in Horticulture and Lab Credits: 3
- HO/ PS 329 - Horticultural Pests Credits: 3
- HO/ PS 345 - Non-Chemical Weed Management Credits: 3
- HO/ PS 447-547 - Organic Plant Production Credits: 3
- PS 405-405L/505-505L - Entomology and Lab (COM) Credits: 3 [2]
  or PS 407-407L/507-507L - Insect Pest Management and Lab Credits: 2, 1 [2]
- PS 415-415L/515-515L - Mycology and Lab (COM) Credits: 3

- PS 431-531 - Insect Ecology and Biological Control Credits: 3
- PS 433-533 - Field Crop Diseases and Management Credits: 3

### Soils/Environmental Protection

- PRAG 310 - Sustainable Agriculture Credits: 3
- PRAG 410-410L/510-510L - Soil Geography and Land Use Interpretation and Lab Credits: 2, 1 [2]
- PS 243 - Principles of Geology [SGR #6] Credits: 3 [2]
- PS 244 - Geological Resources of South Dakota Lab [SGR #6] Credits: 1
- PS 321 - Soil Judging Credits: 1 [1]
- PS 412-512 - Environmental Soil Chemistry Credits: 3
- PS 421-421L/521-521L - Soil Microbiology and Lab Credits: 3 [2]
- PS 462-462L/562-562L - Environmental Soil Management and Lab Credits: 3 [2]
- PS 483-583 - Irrigation – Crop and Soil Practices Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 125

### Notes

[1] Cannot be used to solely meet area requirements.
[2] Can only be used to meet requirements in one section
[A] Agronomy Major Core Curriculum: A student must have a 2.5 GPA or higher and a grade of C or higher in the courses used to satisfy the Agronomy core curriculum in order to graduate with a major in Agronomy.

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30-34 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 58-64 Credit Hours |
| Plant Science Electives | 15 Credit Hours |
| Electives** | 12-22 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Agronomy (B.S.)

## American Indian & Indigenous Studies (B.A.)

### Program Coordinator/Contact

Mark Freeland, Assistant Professor and Coordinator of American Indian and Indigenous Studies
School of American and Global Studies
West Hall 106, Box 510
605-688-5101

### Program Information

The American Indian and Indigenous Studies program prepares critical thinkers for living in an interrelated world with the rigorous engagement of Indigenous intellectual traditions, interdisciplinary theories, methods and community engagement. Indigenous languages and narratives provide a grounding for the development of Indigenous leadership. Coursework provides an understanding of American Indian and Indigenous worldviews as lenses to comprehend traditional knowledge and culture, and a basis with which to view the process of colonization and decolonization of Indigenous peoples and lands.

### Student Learning Outcomes

Graduates will:

- Identify and analyze the trajectory of colonization and decolonization among Indigenous peoples in the North American context.
- Apply a theory of Indigenous worldview to effectively demonstrate cultural difference among Indigenous peoples and between Indigenous and non-Indigenous peoples.
- Apply an Indigenous methodological lens towards a research project benefitting Indigenous communities.
- Critically analyze and evaluate contemporary Indigenous issues working across academic disciplines to further the process of decolonization and Indigenization.
- Analyze the cultural and linguistic translations evident in American Indian and Indigenous Studies to develop decolonizing and Indigenizing discourses.

### Course Delivery Method

Courses for the American Indian and Indigenous Studies major are delivered in face-to-face environments, utilizing lectures, discussions, and applied learning.

### Requirements for American Indian and Indigenous Studies Major: 120 Credits

*Bachelor of Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3 or ENGL 283 - Introduction to Creative Writing (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts specifications.

### Major Requirements

- AIS 100 - Introduction to American Indian and Indigenous Studies Credits: 3
- AIS 101 - Introductory Lakota I (COM) [SGR #4] Credits: 4
- AIS 102 - Introductory Lakota II (COM) [SGR #4] Credits: 4
- AIS 201 - Intermediate Lakota I (COM) [SGR #4] Credits: 3
- AIS 202 - Intermediate Lakota II (COM) [SGR #4] Credits: 3
- AIS/ REL 238 - Native American Religions [SGR #4] Credits: 3
- AIS 490 - Seminar (COM) Credits: 3 (Capstone)

### Select from the following

Select fifteen credits from the following. Credits: 15

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- AIS/ HIST/ WMST 349 - Women in American History (COM) Credits: 3
- AIS/ WMST 361 - Gender and Sexuality Credits: 3
- AIS/ WMST 362 - Indigenous Feminisms Credits: 3
- AIS 367 - Rise of American Indian Activism Credits: 3
- AIS/ HIST 368 - History and Culture of the American Indian (COM) Credits: 3
- AIS/ HIST 373 - Oral History Credits: 3
- AIS 430-530 - Indigenous Relationships to the Environment Credits: 3
- AIS/ ENGL 445 - American Indian Literature (COM) Credits: 3
- AIS/ ENGL 447 - American Indian Literature of the Present Credits: 3
- AIS 462 - Formation of Federal Indian Policy Credits: 3
- AIS 471 - American Indians in Film (COM) Credits: 3

- AIS 491 - Independent Study (COM) Credits: 1-3
- AIS 492 - Topics (COM) Credits: 1-3
- AIS 496 - Field Experience (COM) Credits: 1-12

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

### Bachelor of Arts

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 38 Credit Hours |
| Electives** | 49 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- American Indian and Indigenous Studies (B.A.)

## Animal Science (B.S.) - Food Animal Health Specialization

### Program Coordinator/Contact

Rosie Nold, Professor and Assistant Department Head
Department of Animal Science
Animal Science Complex 116
605-688-5459

### Program Information

The Animal Science program provides instruction in livestock breeding, feeding, management, selection, evaluation, and marketing, along with meat science, and equine studies. Courses emphasize the principles of genetics, nutrition, physiology, and meats as they affect production and management of livestock and animal products. Beef cattle, horses, sheep, and swine are the primary species discussed in courses.

The specializations allow students to focus their studies on Industry Relations, Production Management, Science, or Food Animal Health. The Production Management Specialization provides flexibility for students to complete courses and minors in related areas of interest. The Science and Food Animal Health Specializations are designed to meet course requirements of the Pre-Veterinary Medicine curriculum for the SDSU Professional Program in Veterinary Medicine and some other veterinary schools. In the Industry Relations Specialization students gain the fundamentals of animal science disciplines, paired with training in communication skills and leadership to enhance their opportunities in many animal and animal products based careers.

### Student Learning Outcomes

Upon completion of the Animal Science major with a Food Animal Health Specialization, students will:

- Acquire knowledge of the core sciences and best management practices that are the foundation of animal science and husbandry.
- Demonstrate effective written and oral communication skills using a variety of mediums and with various audience types and apply techniques to critically evaluate communication strategies regarding animal agriculture.
- Demonstrate the ability to function as an effective member of a team.
- Develop fact-based comparisons of both sides of contemporary issues that impact diversity, inclusion, equity, and professional ethics as related to animal agriculture.
- Interpret, critically evaluate, and apply information in order to recognize problems and create solutions.

### Admission & Eligibility Requirements

### SDSU Professional (DVM) Program in Veterinary Medicine VFAST (Veterinary Food Animal Scholar Track) (Beginning Fall 2022)

### Who is eligible for VFAST?

Eligible students must be/have/complete:

- Enrolled in South Dakota State University as a full-time student pursuing an Animal Science major.
- Experience working, caring for, and/or volunteering with food animals, including beef cattle, dairy cattle, swine, sheep, goats, poultry, etc.
- Demonstrated a firm commitment to practice rural and food animal medicine upon graduation from the SDSU-U of M 2 + 2 Professional (DVM) Program in Veterinary Medicine. (Rural Veterinary Medicine is the practice of veterinary medicine in non-metropolitan communities (where agriculture is an essential component of the economy), in a manner that addresses the needs of a local community across a spectrum of health care among the animal populations present.)
- Complete the VFAST application. Applications are accepted one time per year and are due by the application deadline in the spring semester. Applicants with a strong academic record and extensive food animal related experience will be asked to participate in an admissions interview.

In addition, students must meet the following:

- Will have at least two additional semesters of enrollment at SDSU after the VFAST application is submitted and prior to graduation and/or 2 + 2 PPVM start.
- Have not previously received a Bachelor's degree.
- Completed at least two semesters of full-time attendance with coursework graded A-F by the end of the spring semester in which the application is submitted.

Applicants meeting or exceeding the following requirements will have the best chance for selection into the SDSU PPVM VFAST Program:

- Competitive ACT scores (at least 25) and/or SAT Scores (at least 1140).
- Competitive high school rank (if applicable) and GPA.
- Complete first-year coursework consistent with admissions requirements for SDSU's Professional Program in Veterinary Medicine (e.g. chemistry, biology, math, English).
- Maintain full-time college enrollment in both fall and spring semesters (at least 12 credit hours per semester).
- SDSU cumulative GPA of at least 3.5 on a 4.0 scale.
- SDSU pre-veterinary courses GPA typically above 3.4 on a 4.0 scale.
- Demonstrate extensive experience related to food animal medicine (e.g. working in a mixed animal or food animal veterinary practice, farm or ranch experience, participation in FFA or 4-H, other experience(s) related to rural-focused mixed or food animal veterinary practices).

### Applying to VFAST

The application process will be coordinated through the SDSU Department of Veterinary and Biomedical Sciences. Contact the Director of Professional Programs (605-688-6645) for more information.

Documents required for application will include an application form, transcripts and three letters of recommendation. At least one letter should come from a veterinarian who can validate the applicant's potential as a rural-focused mixed or food animal veterinary practitioner. Other letters of reference should confirm the applicants' scholarly discipline, dedication, compassion, work ethic, agricultural perspective, capability, drive, etc.

### Completing the VFAST program

VFAST program participants must meet the following criteria in order to gain full admission to the DVM program:

- Continue to complete the courses outlined in the Animal Science major - Food Animal Health Specialization, including animal production courses.
- Complete all required pre-veterinary coursework.
- Maintain an SDSU cumulative undergraduate GPA of 3.5 or higher.
- Continue to participate in food animal related activities and experiences.

### Course Delivery Format

The Animal Science program provides hands-on experiences in the classroom, laboratories, field trips, and at the livestock teaching units.

### Requirements for Animal Science Major - Food Animal Health Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5] Credits: 5 or MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5 or MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11**

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

**Students in the Animal Science (B.S.) - Food Animal Health Specialization need to complete only 10 of the 11 required Group 1 Electives to meet College of Agriculture, Food and Environmental Sciences requirements.

- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1 (Major Requirement)
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3 (Major Requirement)
- AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3 (Major Requirement)

### Major Requirements

- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
- AS 119 - Opportunities in Animal and Veterinary Science Credits: 1
- AS 120 - Survey of Animal Science Credits: 1
  or VET 120 - Introduction to Veterinary Medicine Credits: 1
- AS 219 - Principles of Animal Nutrition Credits: 3
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3
- AS 332 - Livestock Breeding and Genetics Credits: 4
- AS 333-333L - Livestock Reproduction and Lab Credits: 3
- AS 389 - Current Issues in Animal Science Credits: 3
- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
  or MICR 233-233L - Introductory Microbiology and Lab Credits: 4
- NRM 282-282L - Natural Resource Statistics and Lab Credits: 3
  or STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
- PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
  or PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4
  or PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4
- VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4
- VET 602 - Integrated Biochemistry and Physiology Credits: 7
- VET 604 - Clinical Skills I Credits: 1
- VET 606 - Critical Scientific Reading Credits: 1
- VET 625 - Basic Pathology Credits: 2
- VET 626 - Agents of Disease I Credits: 4
- VET 627 - Preventative Medicine Credits: 4

### Capstone Requirements

Select from the following. Credits: 6
*One course must be AS 474-474L, AS 475-475L, AS 476-476L, AS 477-477L, or AS 478-478L.

- AS 445-445L - Value-Added Meat Products and Lab Credits: 3
- AS 450 - Meat Product Safety and HACCP Credits: 3
- AS 474-474L - Cow/Calf Management and Lab Credits: 3
- AS 475-475L - Feedlot Operations and Management and Lab Credits: 3
- AS 476-476L - Horse Production and Lab Credits: 3
- AS 477-477L - Sheep and Wool Production and Lab Credits: 3
- AS 478-478L - Swine Production and Lab Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32-34 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 10 Credit Hours |
| Major Requirements | 88 Credit Hours |
| Electives | 0 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Animal Science (B.S.) - Food Animal Health Specialization

## Animal Science (B.S.) - Industry Relations Specialization

### Program Coordinator/Contact

Rosie Nold, Professor and Assistant Department Head
Department of Animal Science
Animal Science Complex 116
605-688-5459

### Program Information

The Animal Science program provides instruction in livestock breeding, feeding, management, selection, evaluation, and marketing, along with meat science, and equine studies. Courses emphasize the principles of genetics, nutrition, physiology, and meats as they affect production and management of livestock and animal products. Beef cattle, horses, sheep, and swine are the primary species discussed in courses.

The specializations allow students to focus their studies on Industry Relations, Production Management, Science, or Food Animal Health. The Production Management Specialization provides flexibility for students to complete courses and minors in related areas of interest. The Science and Food Animal Health Specializations are designed to meet course requirements of the Pre-Veterinary Medicine curriculum for the SDSU Professional Program in Veterinary Medicine and some other veterinary schools. In the Industry Relations Specialization students gain the fundamentals of animal science disciplines, paired with training in communication skills and leadership to enhance their opportunities in many animal and animal products based careers.

### Student Learning Outcomes

Upon completion of the Animal Science major with a Industry Relations Specialization, students will:

- Acquire knowledge of the core sciences and best management practices that are the foundation of animal science and husbandry.
- Demonstrate effective written and oral communication skills using a variety of mediums and with various audience types and apply techniques to critically evaluate communication strategies regarding animal agriculture.
- Demonstrate the ability to function as an effective member of a team.
- Develop fact-based comparisons of both sides of contemporary issues that impact diversity, inclusion, equity, and professional ethics as related to animal agriculture.
- Interpret, critically evaluate, and apply information in order to recognize problems and create solutions.

### Course Delivery Format

The Animal Science program provides hands-on experiences in the classroom, laboratories, field trips, and at the livestock teaching units.

### Requirements for Animal Science Major - Industry Relations Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3 or CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 or BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and BIOL 103-103L - Biology Survey II and Lab (COM) [SGR #6] Credits: 3 or BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1 (Major Requirement)
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3 (Major Requirement)
- AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3 (Major Requirement)
- Group 1 Courses in Agriculture Credits: 1

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
  or AGEC 354 - Agricultural Marketing and Prices Credits: 3
- ADV 476-576 - Global and Multicultural Advertising Credits: 3
  or CMST 470 - Intercultural Communication (COM) Credits: 3
  or GLST 280 - Developing Intercultural Competence Credits: 3
  or GLST 489 - Capstone Intercultural Competencies Credits: 3
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
- AS 119 - Opportunities in Animal and Veterinary Science Credits: 1
- AS 120 - Survey of Animal Science Credits: 1
  or VET 120 - Introduction to Veterinary Medicine Credits: 1
- AS 219 - Principles of Animal Nutrition Credits: 3
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 3
- AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3
- AS 332 - Livestock Breeding and Genetics Credits: 4
- AS 333-333L - Livestock Reproduction and Lab Credits: 3
- AS 389 - Current Issues in Animal Science Credits: 3
- CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1
  or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1
- CMST 311 - Business and Professional Communication (COM) Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3
  or LDR 310 - Leadership in Context (COM) Credits: 3
  or LDR 435 - Organizational Leadership and Team Development Credits: 3
- MCOM 210-210L - Basic Newswriting and Lab (COM) Credits: 3
- VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4
- VET 403 - Animal Diseases and Their Control Credits: 3

### Experiential Learning Requirement

Select at least one credit from the following list. Credits: 1

- ABS 482-582 - International Experience Credits: 2-4
- AS 322 - Advanced Livestock Evaluation Credits: 1
- AS 400 - Judging Team Credits: 1-2
- AS 494 - Internship (COM) Credits: 1-12
- AS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3

### Capstone Requirements

Select from the following. Credits: 9

- AS 445-445L - Value-Added Meat Products and Lab Credits: 3
- AS 450 - Meat Product Safety and HACCP Credits: 3
- AS 474-474L - Cow/Calf Management and Lab Credits: 3
- AS 475-475L - Feedlot Operations and Management and Lab Credits: 3
- AS 476-476L - Horse Production and Lab Credits: 3
- AS 477-477L - Sheep and Wool Production and Lab Credits: 3
- AS 478-478L - Swine Production and Lab Credits: 3

### Select from the following

Select a total of six credits from the following. Must select from a minimum of two (2) prefixes. Credits: 6

- ADV 314 - Digital Promotions Credits: 3
- ADV 411-411L - Media Analytics and Studio Credits: 3
- CMST 201 - Interpersonal Communication (COM) [SGR #3] Credits: 3
- CMST 320 - Communication in Interviewing (COM) Credits: 3
- CMST 434 - Small Group Communication (COM) Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- MCOM 270 - Data Analysis in Communication Credits: 3
- MCOM 331-331L - Video Production and Lab (COM) Credits: 3
- MCOM 336 - Feature Writing Credits: 3
- MCOM 430-530 - Media Law (COM) Credits: 3
- PUBR 243 - Public Relations Principles (COM) Credits: 3
- PUBR 345 - Public Relations Writing Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30-32 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 75 Credit Hours |
| Electives** | 12-15 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Animal Science (B.S.) - Industry Relations Specialization

## Animal Science (B.S.) - Production Management Specialization

### Program Coordinator/Contact

Rosie Nold, Professor and Assistant Department Head
Department of Animal Science
Animal Science Complex 116
605-688-5459

### Program Information

The Animal Science program provides instruction in livestock breeding, feeding, management, selection, evaluation, and marketing, along with meat science, and equine studies. Courses emphasize the principles of genetics, nutrition, physiology, and meats as they affect production and management of livestock and animal products. Beef cattle, horses, sheep, and swine are the primary species discussed in courses.

The specializations allow students to focus their studies on Industry Relations, Production Management, Science, or Food Animal Health. The Production Management Specialization provides flexibility for students to complete courses and minors in related areas of interest. The Science and Food Animal Health Specializations are designed to meet course requirements of the Pre-Veterinary Medicine curriculum for the SDSU Professional Program in Veterinary Medicine and some other veterinary schools. In the Industry Relations Specialization students gain the fundamentals of animal science disciplines, paired with training in communication skills and leadership to enhance their opportunities in many animal and animal products based careers.

### Student Learning Outcomes

Upon completion of the Animal Science major with a Production Management Specialization, students will:

- Acquire knowledge of the core sciences and best management practices that are the foundation of animal science and husbandry.
- Demonstrate effective written and oral communication skills using a variety of mediums and with various audience types and apply techniques to critically evaluate communication strategies regarding animal agriculture.
- Demonstrate the ability to function as an effective member of a team.
- Develop fact-based comparisons of both sides of contemporary issues that impact diversity, inclusion, equity, and professional ethics as related to animal agriculture.
- Interpret, critically evaluate, and apply information in order to recognize problems and create solutions.

### Course Delivery Format

The Animal Science program provides hands-on experiences in the classroom, laboratories, field trips, and at the livestock teaching units.

### Requirements for Animal Science Major - Production Management Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5] Credits: 5 or MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5 or MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 or BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and BIOL 103-103L - Biology Survey II and Lab (COM) [SGR #6] Credits: 3 or BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1 (Major Requirement)
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3 (Major Requirement)
- AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3 (Major Requirement)
- Group 1 courses in Agriculture Credits: 1

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
- AS 119 - Opportunities in Animal and Veterinary Science Credits: 1
- AS 120 - Survey of Animal Science Credits: 1
  or VET 120 - Introduction to Veterinary Medicine Credits: 1
- AS 219 - Principles of Animal Nutrition Credits: 3
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 3
- AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3
- AS 332 - Livestock Breeding and Genetics Credits: 4
- AS 333-333L - Livestock Reproduction and Lab Credits: 3
- AS 389 - Current Issues in Animal Science Credits: 3
- VET 403 - Animal Diseases and Their Control Credits: 3

### Experiential Learning Requirement

Select one of the following. Credits: 1-3

- ABS 482-582 - International Experience Credits: 2-4
- AS 322 - Advanced Livestock Evaluation Credits: 1
- AS 400 - Judging Team Credits: 1-2
- AS 494 - Internship (COM) Credits: 1-12
- AS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3

### Capstone Requirements

Select from the following. Credits: 9

- AS 445-445L - Value-Added Meat Products and Lab Credits: 3
- AS 450 - Meat Product Safety and HACCP Credits: 3
- AS 474-474L - Cow/Calf Management and Lab Credits: 3
- AS 475-475L - Feedlot Operations and Management and Lab Credits: 3
- AS 476-476L - Horse Production and Lab Credits: 3
- AS 477-477L - Sheep and Wool Production and Lab Credits: 3
- AS 478-478L - Swine Production and Lab Credits: 3

### Science Requirements

- CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1
  or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1
  or CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4

### Electives

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30-34 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 59-62 Credit Hours |
| Electives** | 23-30 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Animal Science (B.S.) - Production Management Specialization

## Animal Science (B.S.) - Science Specialization

### Program Coordinator/Contact

Rosie Nold, Professor and Assistant Department Head
Department of Animal Science
Animal Science Complex 116
605-688-5459

### Program Information

The Animal Science program provides instruction in livestock breeding, feeding, management, selection, evaluation, and marketing, along with meat science, and equine studies. Courses emphasize the principles of genetics, nutrition, physiology, and meats as they affect production and management of livestock and animal products. Beef cattle, horses, sheep and swine are the primary species discussed in courses.

The specializations allow students to focus their studies on Industry Relations, Production Management, Science, or Food Animal Health. The Production Management Specialization provides flexibility for students to complete courses and minors in related areas of interest. The Science and Food Animal Health Specializations are designed to meet course requirements of the Pre-Veterinary Medicine curriculum for the SDSU Professional Program in Veterinary Medicine and some other veterinary schools. In the Industry Relations Specialization students gain the fundamentals of animal science disciplines, paired with training in communication skills and leadership to enhance their opportunities in many animal and animal products based careers.

### Student Learning Outcomes

Upon completion of the Animal Science major with a Science Specialization, students will:

- Acquire knowledge of the core sciences and best management practices that are the foundation of animal science and husbandry.
- Demonstrate effective written and oral communication skills using a variety of mediums and with various audience types and apply techniques to critically evaluate communication strategies regarding animal agriculture.
- Demonstrate the ability to function as an effective member of a team.
- Develop fact-based comparisons of both sides of contemporary issues that impact diversity, inclusion, equity, and professional ethics as related to animal agriculture.
- Interpret, critically evaluate, and apply information in order to recognize problems and create solutions.

### Course Delivery Format

The Animal Science program provides hands-on experiences in the classroom, laboratories, field trips, and at the livestock teaching units.

### Requirements for Animal Science Major - Science Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5] Credits: 5 or MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5 or MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1 (Major Requirement)
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3 (Major Requirement)
- AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3 (Major Requirement)
- Group 1 courses in Agriculture Credits: 1

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
- AS 119 - Opportunities in Animal and Veterinary Science Credits: 1
- AS 120 - Survey of Animal Science Credits: 1
  or VET 120 - Introduction to Veterinary Medicine Credits: 1
- AS 219 - Principles of Animal Nutrition Credits: 3
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3
- AS 332 - Livestock Breeding and Genetics Credits: 4
- AS 333-333L - Livestock Reproduction and Lab Credits: 3
- AS 389 - Current Issues in Animal Science Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
  or NRM 282-282L - Natural Resource Statistics and Lab Credits: 3
- VET 403 - Animal Diseases and Their Control Credits: 3

### Experiential Learning Requirement

Select from the following. Credits: 1-3

- ABS 482-582 - International Experience Credits: 2-4
- AS 322 - Advanced Livestock Evaluation Credits: 1
- AS 400 - Judging Team Credits: 1-2
- AS 494 - Internship (COM) Credits: 1-12
- AS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3

### Capstone Requirements

Select from the following. Credits: 6
*One course must be AS 474-474L, AS 475-475L, AS 476-476L, AS 477-477L, or AS 478-478L.

- AS 445-445L - Value-Added Meat Products and Lab Credits: 3
- AS 450 - Meat Product Safety and HACCP Credits: 3
- AS 474-474L - Cow/Calf Management and Lab Credits: 3
- AS 475-475L - Feedlot Operations and Management and Lab Credits: 3
- AS 476-476L - Horse Production and Lab Credits: 3
- AS 477-477L - Sheep and Wool Production and Lab Credits: 3
- AS 478-478L - Swine Production and Lab Credits: 3

### Science Requirements

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4 or MICR 233-233L - Introductory Microbiology and Lab Credits: 4
- PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
  and PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4
  or
  PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4
  and PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4
- VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

### Bachelor of Science

| | |
|---|---|
| System General Education Requirements | 32-34 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 76-78 Credit Hours |
| Electives** | 7-11 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Animal Science (B.S.) - Science Specialization

## Architecture (B.F.A.)

### Program Coordinator/Contact

Brian Rex, Department Head
Department of Architecture
Chicoine Architecture, Mathematics and Engineering Hall 378
605-688-4841

### Program Information

The department has three academic components:

- The first year School of Design cross-disciplinary experience.
- The three semester pre-professional building arts and public works design experience.
- The seven semester professional program experience.

A Bachelor of Fine Arts in Architecture degree (BFA-Arch) is recommended for those who want a studio-based liberal arts education in architecture as their first post-secondary experience. Students in this program typically come from high school, community colleges / technical institutes, and transfer from other majors. The B.F.A. in Architecture is 120 credit hours in eight semesters that can be completed in four regular (Fall & Spring only) academic years. Students completing the B.F.A. can apply to the two year Master of Architecture program to cap the education as NAAB accredited professional training in architecture. One must hold an NAAB accredited degree to become an architect.

### Student Learning Outcomes

Upon completion of the architecture major, students will be able to:

- Move ideas from abstract to concrete through graphical methods.
- Measure and understand the impact of ideas on theoretical, social, political, economic, cultural, and environmental contexts.
- Use a diverse range of mediated practices to think about and convey architectural ideas, including writing, investigating, speaking, drawing, and modeling.
- Comprehend the technical aspects of both construction and mediating technologies and be able to apply that comprehension to architectural solutions.
- Capacity to synthesize a wide range of variables into an integrated design solution.
- Understand business principles for the practice of architecture, including management, advocacy, and the need to act legally, ethically, and critically for the good of the client, society, and the public.

### Academic Requirements

Architecture students must maintain at least a major GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of a "C" or better is required in all ART, ARTE, ARTH, GDES, DSGN, LA, ARCH, CM and ID courses.

### Course Delivery Format

The curriculum is interactive, haptic and performance based, offering problem solving experiences in all major areas of professional practice.

### Requirements for Architecture Major: 120 Credits

*Bachelor of Fine Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and SGR #1 Elective Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: ARCH 241 - Construction History [SGR #4] Credits: 3 and ART/ DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3
- Goal #5 Mathematics: MATH 120 - Trigonometry (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: SGR #6 Elective Credits: 3 and PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Fine Arts Requirements: 3

- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Fine Arts specifications.

### School of Design Requirements

- DSGN 110 - Creative Thinking Credits: 3
- DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3 (SGR #4)
- DSGN 452 - Design Capstone Credits: 2

### School of Design Electives

Select 6 credits from the list below. Students are required to take any two ART or GDES courses from the list below. Contact the School of Design advisor for approval of additional courses. Credits: 6

- ART 111 - Drawing I (COM) [SGR #4] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 231 - Painting I (COM) Credits: 3
- ART 241 - Sculpture I (COM) Credits: 3
- ART 251 - Ceramics I (COM) Credits: 3
- ART 281 - Printmaking I (COM) Credits: 3
- ART 492-592 - Topics (COM) Credits: 1-9 (3 credits required) (Illustration or Letterpress)
- GDES 101 - Computer Graphics Credits: 3
- GDES 207 - Interactive Design I Credits: 3

- GDES 216 - Typography Credits: 3

### Major Requirements

- ARCH 101 - Drawing Architecture Credits: 3
- ARCH 250 - Design Practice Credits: 5 (10 credits required) (Repeated Once)
- ARCH 255 - Building Studio Credits: 5
- ARCH 255L - Building Lab Credits: 2
- ARCH 354 - Research Studio Credits: 5
- ARCH 354L - Research Lab Credits: 2
- ARCH 355 - Building Studio Credits: 5
- ARCH 355L - Building Lab Credits: 2
- ARCH 401-501 - Writing Architecture Credits: 3
- ARCH 402-502 - Reading Architecture Credits: 3
- ARCH 432-532 - Technology of Surroundings Credits: 2
- ARCH 433-533 - Technology of Structures Credits: 3
- ARCH 434-534 - Technology of Systems Credits: 3
- ARCH 442-542 - History of Ideas Credits: 3
- ARCH 443-543 - Urban History Credits: 3
- ARCH 454-554 - Research Studio Credits: 5
- ARCH 454L-554L - Research Lab Credits: 2
- ARCH 455-555 - Building Studio Credits: 5
- ARCH 455L-555L - Building Lab Credits: 2

### Supporting Coursework

- CM 216 - Construction Methods and Materials Credits: 3
- CM 216L - Construction Methods and Materials Lab Credits: 1

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Fine Arts**

| | |
|---|---|
| System General Education Requirements | 31 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements | 3 Credit Hours |
| School of Design Requirements* | 14 Credit Hours |
| Major Requirements | 68 Credit Hours |
| Supporting Coursework | 4 Credit Hours |
| Electives** | 3 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Architecture (B.F.A.)

## Aviation (B.S.) - Aviation Education Specialization

### Program Coordinator/Contact

Cody Christensen, Associate Professor
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5161

### Program Information

The Aviation Education Specialization is for students who wish to become Certified Flight Instructors and later be professional pilots in industry. Many of our graduates are in the airlines, military, government, and corporate workplaces. Top performing students of this option are often brought on as flight instructors in the SDSU program during their junior and senior years.

### Student Learning Outcomes

Graduates of the Aviation Education program will be able to:

- Apply their educational experience to the aviation profession.
- Demonstrate instructional knowledge in single- and multi-engine aircraft to the FAA commercial pilot standard.
- Demonstrate instructional knowledge by creating and teaching relevant aviation topics to colleagues.

Additionally, all students will participate in a senior capstone course that is designed to bridge the gap between their educational experience and future career. Students are evaluated using direct and indirect assessment to assure competency within the profession using a comprehensive assessment plan.

### Course Delivery Formats

Aviation students learn through lecture, laboratory, student lead instruction, and flight training based at the Brookings Regional Airport.

### Requirements for Aviation Major - Aviation Education Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3 and PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 or SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4 and PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- AVIA 101 - Introduction to Aviation Credits: 1
- AVIA 150-150L - Introduction to Aviation Meteorology and Lab Credits: 2
- AVIA 170 - Fundamentals of Flight Theory Credits: 3
- AVIA 171 - Introductory Flight I Credits: 2
- AVIA 180 - Attitude Instrument Theory Credits: 2
- AVIA 181 - Introductory Flight II Credits: 2
- AVIA 200 - Aviation Safety Credits: 3
- AVIA 201 - Aviation Weather Credits: 2
- AVIA 300 - Human Factors in Aviation Credits: 3
- AVIA 302 - Aviation Law Credits: 2
- AVIA 305 - Introduction to Aviation Administration Credits: 3
- AVIA 340 - Advanced Flight Principles Credits: 3
- AVIA 370 - Professional Pilot Theory I Credits: 3
- AVIA 372 - Professional Flight I Credits: 2
- AVIA 375 - Professional Pilot Theory II Credits: 3
- AVIA 377 - Professional Flight II Credits: 2
- AVIA 400 - Air Transportation System Credits: 3
- AVIA 440 - Curriculum Design in Aviation Credits: 3
- AVIA 450 - Methods of Teaching in Aviation Credits: 3
- AVIA 470 - Professional Flight Instructor Theory I Credits: 2
- AVIA 471 - Professional Flight Instructor Theory II Credits: 2
- AVIA 474 - Certified Flight Instructor I Credits: 2
- AVIA 475 - Certified Flight Instructor II Credits: 2
- AVIA 489 - Aviation Senior Seminar Credits: 3
- AVIA 494 - Internship (COM) Credits: 3

### Supporting Coursework

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

**Total Required Credits: 120**

**Summary of Program Requirements**

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 61 Credit Hours |
| Supporting Coursework | 6 Credit Hours |
| Electives** | 17 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Aviation (B.S.) - Aviation Education Specialization

## Aviation (B.S.) - Aviation Maintenance Management Specialization

### Program Coordinator/Contact

Cody Christensen, Associate Professor
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5161

### Program Information

The Aviation Maintenance Management Specialization is focused on students who wish to repair and maintain aircraft. SDSU has partnered with approved FAA A&P programs across the United States to offer a four-year degree in aviation maintenance management. Students will go through maintenance training at an approved maintenance school and will then transfer to SDSU to complete the additional management degree requirements. Students may have the opportunity to work for the Chief of Aviation Maintenance at SDSU prior to graduation.

### Student Learning Outcomes

Aviation Maintenance Management graduates will be able to:

- Apply the general education core to the aviation profession.
- Demonstrate an in-depth knowledge of aircraft systems and operations.
- Apply financial, economic, and management aspects to the aviation maintenance field.

### Course Delivery Formats

Aviation students learn through lecture, laboratory, and hands on experience working on SDSU Aviation aircraft.

### Requirements for Aviation Major - Aviation Maintenance Management Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3 and PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 or SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4 and PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- AVIA 101 - Introduction to Aviation Credits: 1
- AVIA 189 - Airframe and Powerplant Course Credits: 1-40 (32 credits required)
- AVIA 200 - Aviation Safety Credits: 3
- AVIA 300 - Human Factors in Aviation Credits: 3
- AVIA 302 - Aviation Law Credits: 2
- AVIA 305 - Introduction to Aviation Administration Credits: 3
- AVIA 400 - Air Transportation System Credits: 3

### Supporting Coursework

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- BADM 360 - Organization and Management (COM) Credits: 3
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- CSC 105 - Introduction to Computers (COM) Credits: 3
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- ENGL 379 - Technical Communication (COM) Credits: 3
- FIN 310 - Business Finance (COM) Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3
- SOC 353 - Sociology of Work Credits: 3

### Electives

Consult with advisor for approved list.

**Total Required Credits: 120**

**Summary of Program Requirements**

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 47 Credit Hours |
| Supporting Coursework | 30 Credit Hours |
| Electives** | 7 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Aviation (B.S.) - Aviation Maintenance Management Specialization

## Biochemistry (B.S.)

### Program Coordinator/Contact

Douglas Raynie, Department Head
Nicole Grove, Coordinator of Undergraduate Programs
Department of Chemistry and Biochemistry
Avera Health and Science Center 247, Box 2202
605-688-5151

### Program Information

One of the fastest growing scientific disciplines is also one of the youngest – biochemistry. Biochemistry is the application of atomic and molecular principles to the function of plant and animal life processes. This multifaceted science includes the study of all life forms and depends on basic concepts derived from chemistry, biology, physics, and mathematics. Training in biochemistry at the undergraduate level positions students well for careers in biotechnology, pharmaceutical development, government laboratories, and is very appropriate as a pre-professional course of study. The B.S. in Biochemistry curriculum at SDSU builds upon a solid foundation in chemistry, and incorporates selected aspects of biology, physics, and mathematics to complete the undergraduate degree. In addition to completing the degree requirements listed below, biochemistry students engage in undergraduate research with faculty members in the department.

### Student Learning Outcomes

- Students will understand the basic concepts fundamental to chemistry.

- Students will be properly prepared for laboratory investigations.
- Students will understand the nature of biological energy.
- Students will understand catalysis.
- Students will be able to describe energetic coupling of chemical processes in metabolic pathways.
- Students will be able to describe biological macromolecules.
- Students will describe the factors which determine the structure of biological macromolecules.
- Students will be able to relate structure and function.
- Students will be able to describe macromolecular interactions.
- Students will understand that macromolecular structure is dynamic.
- Students will be able to discuss regulation of the biological activity of macromolecules.
- Students will be able to relate the structure (and hence function) with the foundational principles of chemistry and physics.
- Students will be able to use a variety of experimental and computational approaches to observe and quantitatively measure the structure, dynamics and function of biological macromolecules.
- Students will be able to describe the genome.
- Students will be able to discuss the relationship between nucleotide sequence and biological function.
- Students will be able to explain gene transmission from one generation to the next.
- Students will be able to describe genome maintenance.
- Students will understand the scientific process.
- Students will be able to assess, comprehend, and communicate science.
- Students will be able to rely on collaboration, effective teamwork, safety, and ethical practices.
- Students will be able to describe the biological need for homeostasis.
- Students will be able to link steady state processes and homeostasis.
- Students will be able quantify homeostasis.
- Students will be able to describe control mechanisms.
- Students will be able to describe cellular and organismal homeostasis.
- Students will be able to synthesize the curricular knowledge and skills in a capstone (research) experience.

### Academic Requirements

A grade of "C" or better is required in all courses required for the major.

### Accreditation, Certification, and Licensure

The B.S. in Biochemistry is accredited by the American Society of Biochemistry and Molecular Biology (ASBMB), whose certification serves as recognition of a high quality and rigorous curriculum.

### Course Delivery Format

Courses offered in the Biochemistry curriculum are taught in a variety of formats which address student learning outcomes. Didactic (lecture) methods ensure the development of foundational knowledge of chemistry. Practical (laboratory) methods ensure the development of laboratory skills and training; A combination of didactic and practical methods ensure the successful completion of the undergraduate research project.

### Requirements for Biochemistry Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1

### Department of Chemistry and Biochemistry Requirements

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details.

### Major Requirements

- CHEM 119 - First Year Seminar Credits: 1
- CHEM 237 - Intermediate Laboratory Investigations Credits: 1-3 (1 credit required)
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 448-448L - Biophysical Chemistry and Lab Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 465 - Biochemistry II (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1
- CHEM 490 - Seminar (COM) Credits: 1
- CHEM 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12 Credits: 1-12 (4 credits required) Must be taken over at a minimum of two semesters. (Research experience in Biochemistry.)

### Advanced Biology Electives

Students should consult their academic advisor to select courses from the following list based on individual interest. Credits: 9

- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- BIOL 371 - Genetics (COM) Credits: 3
- BIOL 373 - Evolution (COM) Credits: 3
- BIOL 383 - Bioethics (COM) Credits: 4
- BIOL 466-566 - Environmental Toxicology and Contaminants (COM) Credits: 3
- BIOL 470-570 - Cancer Biology (COM) Credits: 3
- BIOL 483-583 - Developmental Biology (COM) Credits: 3
- BOT 327-327L - Plant Physiology and Lab Credits: 4
- CHEM 467-567 - Essentials of Glycobiology Credits: 3 (Can be used for upper division chemistry elective OR upper division biology elective, but not both)
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4 or MICR 233-233L - Introductory Microbiology and Lab Credits: 4
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MICR 424-524 - Medical and Veterinary Virology Credits: 3
- MICR 439-539 - Medical and Veterinary Immunology Credits: 3
- MICR 448-548 - Molecular and Microbial Genetics Credits: 4
- MICR 438L - Techniques in Molecular Biology Laboratory Credits: 2
- MICR 450 - Applied Microbiology and Biotechnology Credits: 3
- STAT 435-535 - Applied Bioinformatics Credits: 3

### Advanced Chemistry Electives

Students should consult their academic advisor to select courses from the following list based on individual interest. Credits: 9

- CHEM 329 - Organic Chemistry III Credits: 2
- CHEM 329L - Organic Chemistry III Lab Credits: 2
- CHEM 332-332L - Analytical Chemistry and Lab (COM) Credits: 3, 1
- CHEM 345 - Quantum Mechanics of Chemical Systems Credits: 2
- CHEM 432 - Analytical Chemistry II Credits: 2
- CHEM 433 - Bioanalytical Chemistry Credits: 2
- CHEM 452-452L - Inorganic Chemistry and Lab (COM) Credits: 3, 1
- CHEM 467-567 - Essentials of Glycobiology Credits: 3 (Can be used for upper division chemistry elective OR upper division biology elective, but not both)
- CHEM 482 - Environmental Chemistry (COM) Credits: 3-4

- CHEM 484-584 - Chemical Toxicology Credits: 3

### Supporting Coursework

- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
- PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Notes

CHEM 498 - Undergraduate Research/Scholarship (COM) - The required undergraduate research project must be in biochemistry and for a minimum of four credits. The research credits are to be completed over the course of at least two semesters. CHEM 498 credit is given for the research that is completed during the semester or summer. CHEM 490 is reserved for completing a written paper of the research project and presenting the paper to the department in the semester after the project is completed. Students are still encouraged to present their research at a regional or national meeting. Refer to the department for information about additional summer research experiences.

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Department of Chemistry and Biochemistry Requirements* | 13+ Credit Hours |
| Major Requirements | 44 Credit Hours |
| Supporting Coursework | 15 Credit Hours |
| Electives** | 25 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Biochemistry (B.S.)

## Biology (B.S.)

### Program Coordinator/Contact

Radhey Kaushik, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141

### Program Information

The curriculum in general Biology provides breadth of exposure to fundamental areas of biology. Students majoring in Biology without a specialization take coursework providing a balance of cell, molecular, and organismal classes. Students select from microbiology, botany, and animal based classes based on their desired career path.

### Student Learning Outcomes

- Graduates will demonstrate fundamental knowledge and comprehension of fundamental concepts in biology and microbiology.
- Graduates will demonstrate scientific reasoning and problem solving.
- Graduates will demonstrate technical laboratory proficiency in applying fundamental knowledge of biology and microbiology.
- Graduates will demonstrate effective oral and written communication skills.

### Academic Requirements

A minimum GPA of 2.0 must be maintained in the major courses.

### Course Delivery Format

Program coursework is on-campus, in classroom and laboratories, as well as field-based settings. Additional coursework is available at off-campus attendance centers. Limited coursework is available online.

### Requirements for Biology Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 115 - Precalculus (COM) [SGR #5] Credits: 5 or higher SGR #5 MATH course Credits: 3-5
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4

### Department of Biology and Microbiology Requirements

- 25 semester credits must be upper division (300 and above), with the exception that MATH 125 and 225, Calculus II and III, may be counted as five credits toward the total.
- Students must complete a minimum of 33 credits from the natural sciences. Refer to departments offering the degree for specific course listings.

### Major Requirements

### Biology and Microbiology

- BIOL 119 - First Year Seminar Credits: 2
- BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1
- BIOL 204-204L - Introduction to Cell Biology and Lab (COM) Credits: 3, 1
- BIOL 290 - Seminar (COM) Credits: 1
- BIOL 383 - Bioethics (COM) Credits: 4
- MICR 233-233L - Introductory Microbiology and Lab Credits: 4

### Chemistry

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1

### Physics

- PHYS Elective Credits: 4

### Mathematics

- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Advanced Writing and Capstone

- BIOL 490 - Seminar (COM) Credits: 1-3 (2 credits required)
- ENGL 379 - Technical Communication (COM) Credits: 3 (Section: Biology and Microbiology)

### General Biology Requirements

- Biology majors without specializations are required to complete at least 10 additional departmental credits at the 300-400 level (BIOL, BOT, or MICR) Credits: 10
- In addition, select one of the following paths. Credits 10-11
  - BIOL 373 - Evolution (COM) Credits: 3
  - BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
  - BIOL 326-326L - Biomedical Physiology and Lab (COM) Credits: 3, 1
  OR
  - BIOL 373 - Evolution (COM) Credits: 3
  - BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3
  - BOT 327-327L - Plant Physiology and Lab Credits: 4
  OR
  - BIOL 476-576 - Advanced Mammalian Physiology Credits: 4
  - MICR 439-539 - Medical and Veterinary Immunology Credits: 3
  - VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Notes

[1] Students planning for professional or graduate degree programs should take MATH 121 or 123 and 125.

[2] PHYS 101-101L is not sufficient for students planning to enter professional or graduate degree programs.

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32-34 Credit Hours |
| Major Requirements | 69-70 Credit Hours |
| Electives** | 16-19 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Biology (B.S.)

## Biology (B.S.) - Secondary Education Specialization

### Program Coordinator/Contact

Radhey Kaushik, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141

### Program Information

The curriculum in the Biology Secondary Education specialization is designed to provide students with the background needed for a successful career teaching biology in middle and high schools. Students complete a broad distribution of courses that include all the major areas in Biology as well as coursework in pedagogical and professional development. For secondary education majors that may teach in a rural school or apply to graduate school, speak to an advisor about taking additional chemistry, physics, and math classes.

### Student Learning Outcomes

Upon completion of the Biology major with a Secondary Education specialization, students will:

- demonstrate understanding and application of evolution; biological structure and function; biological and biochemical pathways and transformations of energy and matter; and biological systems.
- apply the process of science.
- demonstrate understanding of and application of quantitative reasoning; information flow, exchange, and storage; relationship between science and society.
- tap into the interdisciplinary nature of science.
- communicate and collaborate with other disciplines.
- understand how learners grow and develop, recognize that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and design and implement developmentally appropriate and challenging learning experiences.
- understand and use multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making.
- plan instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.
- understand and use a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.

### Academic Requirements

- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

#### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's Secondary preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Program coursework is on-campus, in classrooms and laboratories, as well as field-based settings. Additional coursework is available at off-campus attendance centers. Limited coursework is available online.

### Requirements for Biology Major - Secondary Education Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6 (recommended SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3 and/or PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3)
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 115 - Precalculus (COM) [SGR #5] Credits: 5 or higher SGR #5 MATH course Credits: 3-5
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4

### Department of Biology and Microbiology Requirements

- 25 semester credits must be upper division (300 and above), with the exception that MATH 125 and 225, Calculus II and III, may be counted as five credits toward the total.
- Students must complete a minimum of 33 credits from the natural sciences. Refer to departments offering the degree for specific course listings.

### Major Requirements

#### Biology and Microbiology

- BIOL 119 - First Year Seminar Credits: 2
- BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1
- BIOL 204-204L - Introduction to Cell Biology and Lab (COM) Credits: 3, 1
- BIOL 290 - Seminar (COM) Credits: 1
- MICR 233-233L - Introductory Microbiology and Lab Credits: 4

#### Chemistry and Physics

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4

#### Advanced Writing

- ENGL 379 - Technical Communication (COM) Credits: 3

#### Biology Secondary Education Specialization Requirements

- BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 373 - Evolution (COM) Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3

### Select from the following

Select one of the following courses. Credits: 3-4

- BIOL 326-326L - Biomedical Physiology and Lab (COM) Credits: 3, 1
- BIOL/ PHIL 383 - Bioethics (COM) Credits: 4
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- NRM 200-200L - Animal Diversity and Lab Credits: 3
- PHIL/ REL 454 - Environmental Ethics (COM) Credits: 3

### Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- SEED 413 - 7-12 Science Methods (COM) Credits: 3 (Teaching Content Methods Requirement)
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32-34 Credit Hours |
| Major Requirements | 50-51 Credit Hours |
| Teaching Specialization Requirements | 37 Credit Hours |
| Electives** | 0-1 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

Biology (B.S.) - Secondary Education Specialization

## Biotechnology (B.S.)

### Program Coordinator/Contact

Radhey Kaushik, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141

### Program Information

This interdisciplinary program helps prepare students in fundamental sciences so that they may successfully compete for career opportunities in the growing life sciences industries. Graduates with expertise in biotechnology fill increasing demand from employers utilizing technologies such as molecular biology, genetic engineering, tissue culture, reproductive intervention, and biomass conversion in a variety of applications, such as vaccine and pharmaceutical development, agronomic seed production, livestock breeding, genetic diagnostic testing, identity and parentage verification, criminal forensics, biorenewable product development, or biomedical research.

Students may choose this major for preparation for admission to professional schools such as medicine, dentistry, optometry, pharmacy, and veterinary medicine. The program provides an excellent background for students entering graduate school in a life sciences discipline.

### Student Learning Outcomes

- Graduates will demonstrate fundamental knowledge and comprehension of fundamental concepts in biology and microbiology.
- Graduates will demonstrate scientific reasoning and problem solving.
- Graduates will demonstrate technical laboratory proficiency in applying fundamental knowledge of biology and microbiology.
- Graduates will tap into the interdisciplinary nature of science.
- Graduates will demonstrate effective oral and written communication skills.

### Academic Requirements

A minimum GPA of 2.0 must be maintained in the major courses.

### Course Delivery Format

Program coursework is on-campus, in classroom and laboratories, as well as field-based settings. Additional coursework is available at off-campus attendance centers. Limited coursework is available online.

### Requirements for Biotechnology Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 115 - Precalculus (COM) [SGR #5] Credits: 5 or higher SGR #5 MATH course Credits: 3-5
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4

### Department of Biology and Microbiology Requirements

- 25 semester credits must be upper division (300 and above), with the exception that MATH 125 and 225, Calculus II and III, may be counted as five credits toward the total.
- Students must complete a minimum of 33 credits from the natural sciences. Refer to departments offering the degree for specific course listings.

### Major Requirements

- ABS 205 - Biotechnology in Agriculture and Medicine Credits: 2
- BIOL 119 - First Year Seminar Credits: 2
- BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1
- BIOL 204-204L - Introduction to Cell Biology and Lab (COM) Credits: 3, 1
- BIOL 235-235L - Introduction to Biotechnology and Lab (COM) Credits: 3
- BIOL 383 - Bioethics (COM) Credits: 4
- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1
- MICR 233-233L - Introductory Microbiology and Lab Credits: 4
- MICR 448-548 - Molecular and Microbial Genetics Credits: 4
- MICR 450 - Applied Microbiology and Biotechnology Credits: 3
- MICR 438L - Techniques in Molecular Biology Laboratory Credits: 2
- PHYS Electives Credits: 4
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
- STAT 435-535 - Applied Bioinformatics Credits: 3

### Advanced Fundamentals Requirement

Select at least three credits from the following courses.

- BIOL 483-583 - Developmental Biology (COM) Credits: 3
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MICR 439-539 - Medical and Veterinary Immunology Credits: 3
- MICR 424-524 - Medical and Veterinary Virology Credits: 3
- VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4

### Applications Requirement

Select at least three credits from the following courses.

- ABE 343-343L - Engineering Properties of Biological Materials and Lab Credits: 3

- AS 332 - Livestock Breeding and Genetics Credits: 4
- AS 333-333L - Livestock Reproduction and Lab Credits: 3
- DS 301-301L - Dairy Microbiology and Lab Credits: 4
- DS 312-312L - Dairy Cattle Breeding and Evaluation and Lab Credits: 4
- HO 414-414L/514-514L - Plant Propagation and Lab Credits: 3
- HO/ PS 383-383L - Principles of Crop Improvement and Lab Credits: 3
- MICR 440L - Infectious Disease Lab Credits: 3

### Capstone Requirement

- BIOL 490 - Seminar (COM) Credits: 1-3 (2 credits required)
- ENGL 379 - Technical Communication (COM) Credits: 3 (Section: Biology & Microbiology)

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32-34 Credit Hours |
| Major Requirements | 73-75 Credit Hours |
| Electives** | 11-15 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Biotechnology (B.S.)

## Business Economics (B.A./B.S.)

### Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The major in Business Economics combines the analytical rigor of an economics degree with the practical skills of a management degree. Students can tailor the program to their interests by choosing from a variety of electives in areas such as accounting, business law, decision science, entrepreneurship, economics, finance, management, and marketing. Career opportunities for Business Economics majors include management, finance, banking, sales, real estate, and marketing. The Business Economics major also serves to prepare students for graduate work in law, economics, and business.

### Student Learning Outcomes

Graduates will:

- Be able to use analytical methods to make effective decisions.
- Be able to communicate effectively.
- Be able to evaluate matters of ethics in the profession and the culture more broadly.
- Have the requisite body of knowledge in management and economics.

### Academic Requirements

Students must earn a grade of "C" or better in CSC/MGMT 325 - Management Information Systems (COM), FIN 310 - Business Finance (COM), HRM 460 - Human Resource Management (COM), and MGMT 360 - Organization and Management (COM).

If a student chooses to double major in two majors offered through the Ness School of Management and Economics (Economics, Agricultural Business, Business Economics and Entrepreneurial Studies), the second major needs to have at least 18 credits that are distinct from the first major.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Business Economics Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5 or MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- BADM 101 - Survey of Business (COM) Credits: 3
- BADM 321 - Business Statistics II (COM) Credits: 3
  or DSCI 424 - Operations Research (COM) Credits: 3
- BADM 485 - Business and Financial Decisions in a Global Economy Credits: 3 (Capstone)
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- ECON 119 - First Year Seminar Credits: 1
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- ECON 301 - Intermediate Microeconomics (COM) Credits: 3
  or ECON 431 - Managerial Economics Credits: 3
- ECON 302 - Intermediate Macroeconomics (COM) Credits: 3
  or ECON 330 - Money and Banking (COM) Credits: 3
- ECON 319 - Seminar with Industry Leaders Credits: 1
- FIN 310 - Business Finance (COM) Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT/ CSC 325 - Management Information Systems (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3
- Upper-division electives prefixed ACCT, AGEC, BADM, BLAW, ECON, ENTR, FIN, HRM, MKTG, or MGMT or DSCI 424 or DSCI/ECON 453-553 Credits: 15

### Supporting Coursework

- ENGL 379 - Technical Communication (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 31-32 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 62 Credit Hours |
| Supporting Coursework | 6 Credit Hours |
| Electives** | 17-18 Credit Hours |

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 31-32 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 62 Credit Hours |
| Supporting Coursework | 6 Credit Hours |
| Electives** | 13-14 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Business Economics (B.A.)
- Business Economics (B.S.)

## Chemistry (B.S.)

### Program Coordinator/Contact

Douglas Raynie, Department Head
Nicole Grove, Coordinator of Undergraduate Programs
Department of Chemistry and Biochemistry
Avera Health and Science Center 247, Box 2202
605-688-5151

### Program Information

Chemistry is often referred to as the central science because of its strong connections to the other natural sciences and mathematics. Chemistry is therefore an area of study that allows students vast opportunity to explore the unknown and to address some of society's most pressing scientific problems. Professional chemists are employed in a number of diverse fields: governmental policymakers, pharmaceutical and industrial chemists, intellectual property attorneys, high school teachers, and physicians. The curriculum reaches both the breadth and depth of the discipline. Students take a foundational course in each of the five subdisciplines (analytical, biochemistry, inorganic, organic, and physical chemistry) and advanced courses in these subdisciplines based on the student's individual interests and career goals. Undergraduate training in chemistry at SDSU provides students with enhanced critical-thinking skills and problem-solving abilities, attributes that are highly desired in the modern workforce. The chemistry major is also excellent preparation for professional study in medicine, dentistry, business, and law. The American Chemical Society (ACS), in recognition of the quality and rigor of the curriculum, certifies the B.S. degree in chemistry offered by the Department. In addition to completing the degree requirements listed below, students engage in independent research projects in collaboration with departmental faculty; this capstone experience affords students a means to apply the knowledge of the discipline to questions for which the answers are unknown.

### Student Learning Outcomes

Upon completing a B.S. in Chemistry, graduates will:

- Understand the basic concepts fundamental to chemistry.
- Be properly prepared for laboratory investigations.
- Develop in-depth knowledge of at least four of the five subdisciplines of chemistry (analytical, biochemistry, inorganic, organic, and physical).
- Demonstrate knowledge of modern chemistry topics, which could include catalysis, environmental chemistry, green/sustainable chemistry, materials science, and toxicology.
- Be able to design and execute experiments, analyze data, and use the chemical literature.
- Be able to synthesize the curricular knowledge and skills in a capstone (research) experience.
- Understand the scientific process and develop problem-solving skills.
- Retrieve information effectively.
- Develop chemical safety skills.
- Be able to rely on collaboration, effective teamwork, safety, and ethical practices.
- Learn professional ethics.
- Have proficiency in essential green chemistry competencies.
- Be able to assess, comprehend, and communicate science.

### Academic Requirements

A grade of "C" or better is required in all courses required for the major.

### Accreditation, Certification, and Licensure

The B.S. in Chemistry is certified by the American Chemical Society (ACS), whose certification serves as recognition of a high quality and rigorous curriculum.

### Course Delivery Format

Courses offered in the B.S. Chemistry curriculum are taught in a variety of formats which address student learning outcomes. Didactic (lecture) methods ensure the development of foundational knowledge of chemistry. Practical (laboratory) methods ensure the development of laboratory skills and training. A combination of didactic and practical methods ensures the successful completion of the undergraduate research project.

### Requirements for Chemistry Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1

### Department of Chemistry and Biochemistry Requirements

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details.

### Major Requirements

- CHEM 119 - First Year Seminar Credits: 1
- CHEM 237 - Intermediate Laboratory Investigations Credits: 1-3 (1 credit required)
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 332-332L - Analytical Chemistry and Lab (COM) Credits: 3, 1
- CHEM 343 - Fundamentals of Chemical Thermodynamics Credits: 2
- CHEM 343L - Fundamentals of Chemical Thermodynamics Lab Credits: 1

- CHEM 452-452L - Inorganic Chemistry and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods - Biochemistry Credits: 1
- CHEM 490 - Seminar (COM) Credits: 1
- CHEM 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12 (4 credits required) Must be taken over at a minimum of two semesters. (Research Experience) [1]

### Advanced Chemistry Electives

Select from the following courses: Credits: 9

- CHEM 329 - Organic Chemistry III Credits: 2
- CHEM 329L - Organic Chemistry III Lab Credits: 2
- CHEM 432 - Analytical Chemistry II Credits: 2
- CHEM 433 - Bioanalytical Chemistry Credits: 2
- CHEM 448-448L - Biophysical Chemistry and Lab Credits: 3, 1
- CHEM 465 - Biochemistry II (COM) Credits: 3
- CHEM 467-567 - Essentials of Glycobiology Credits: 3
- CHEM 482 - Environmental Chemistry (COM) Credits: 3-4 (3 credits required)
- CHEM 484-584 - Chemical Toxicology Credits: 3

### Supporting Coursework

- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
- PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4

### Electives

Taken as needed to complete any additional degree requirements.

### Emphases

Within the major, electives may be selected to develop a multidisciplinary emphasis area. Students who wish to pursue multidisciplinary emphasis should consult their academic advisor early in their academic career to plan courses and electives in support of the intended multidisciplinary emphasis.

### Total Required Credits: 120

### Notes

[1]CHEM 498 - Undergraduate Research/Scholarship (COM) - The required undergraduate research project must be in chemistry and for a minimum of four credits. The research credits are to be completed over the course of at least two semesters. CHEM 498 credit is given for the research that is completed during the semester or summer. CHEM 490 is reserved for completing a written paper of the research project and presenting the paper to the department in the semester after the project is completed. Students are still encouraged to present their research at a regional or national meeting. Refer to the department for information about additional summer research experiences.

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Department of Chemistry and Biochemistry Requirements* | 13+ Credit Hours |
| Major Requirements | 39 Credit Hours |
| Supporting Coursework | 16 Credit Hours |
| Electives** | 29 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Chemistry (B.S.)

## Chemistry Education (B.S.)

### Program Coordinator/Contact

Douglas Raynie, Department Head
Nicole Grove, Coordinator of Undergraduate Programs
Department of Chemistry and Biochemistry
Avera Health and Science Center 247, Box 2202
605-688-5151

### Program Information

Chemistry is often referred to as the central science because of its strong connections to the other natural sciences and mathematics. Chemistry is therefore an area of study that allows students vast opportunity to explore the unknown and to address some of human society's most pressing scientific problems. The Chemistry Education program will prepare students for careers in high-quality teaching of chemistry at the secondary/high school level. The curriculum consists of a set of core requirements for students to acquire fundamental chemistry content knowledge and skills shared by all high-quality chemistry teachers, requirements for cognate knowledge development and skills acquisition (e.g., mathematics and other sciences), while meeting the state licensure requirements to teach high school. The core requirements provide foundational understanding in all five sub-disciplines of chemistry (analytical, biochemistry, inorganic, organic, and physical), representing breadth of content knowledge. The curriculum also allows for exploration into the depth of chemistry content by including elective coursework in chemistry, environmental chemistry, and a capstone research course.

### Student Learning Outcomes

Upon completing a major in Chemistry Education, graduates will:

- Understand the basic concepts fundamental to chemistry.
- Be properly prepared for laboratory investigations.
- Develop in-depth knowledge of at least four of the five subdisciplines of chemistry (analytical, biochemistry, inorganic, organic, and physical).
- Demonstrate knowledge of modern chemistry topics, which could include catalysis, environmental chemistry, green/sustainable chemistry, materials science, and toxicology.
- Be able to design and execute experiments, analyze data, and use the chemical literature.
- Be able to synthesize the curricular knowledge and skills in a capstone (research) experience.
- Understand the scientific process and develop problem-solving skills.
- Retrieve information effectively.
- Develop chemical safety skills.
- Be able to rely on collaboration, effective teamwork, safety, and ethical practices.
- Learn professional ethics.
- Have proficiency in essential green chemistry competencies.
- Be able to assess, comprehend, and communicate science.
- Demonstrate teaching effectiveness.
- Illustrate learner development.
- Recognize learning differences and learning environments.
- Formulate content knowledge.
- Implement uses of multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making.
- Create plans of instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.
- Use a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.
- Engage in ongoing professional learning and use evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapt practice to meet the needs of each learner.
- Seek appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.

### Academic Requirements

- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's Secondary preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Courses offered in the Chemistry Education curriculum are taught in a variety of formats which address student learning outcomes. Didactic (lecture) methods ensure the development of foundational knowledge of chemistry. Practical (laboratory) methods ensure the development of laboratory skills and training.

### Requirements for Chemistry Education Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1

### Department of Chemistry and Biochemistry Requirements

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details.

### Major Requirements

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- CHEM 119 - First Year Seminar Credits: 1
- CHEM 237 - Intermediate Laboratory Investigations Credits: 1-3 (1 credit required)
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 332-332L - Analytical Chemistry and Lab (COM) Credits: 3, 1
- CHEM 343 - Fundamentals of Chemical Thermodynamics Credits: 2
- CHEM 452-452L - Inorganic Chemistry and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1
- CHEM 482 - Environmental Chemistry (COM) Credits: 3-4 (3 credits required)
  or CHEM 484-584 - Chemical Toxicology Credits: 3
- CHEM 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12 (2 credits required)
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- EDFN 475 - Human Relations (COM) Credits: 3
- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4
- SEED 413 - 7-12 Science Methods (COM) Credits: 3
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Total Required Credits: 120

### Summary of Program Requirements

| Bachelor of Science | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Department of Chemistry and Biochemistry Requirements* | 13+ Credit Hours |
| Major Requirements | 83 Credit Hours |
| Electives** | 1 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Chemistry Education (B.S.)

## Civil Engineering (B.S.)

### Program Coordinator/Contact

Nadim Wehbe, Department Head
Department of Civil and Environmental Engineering
Crothers Engineering Hall 120
605-688-5427

### Program Information

Civil Engineering includes design, construction, and operation and maintenance of highways, airports, buildings, bridges, dams, water supply and distribution systems, waste water collection systems and treatment plants, irrigation and drainage systems, river and harbor improvements and many other infrastructure facilities essential in modern life. Civil Engineers are custodians of the built environment and are responsible for all aspects of the world's infrastructure.

To prepare students for these responsibilities, the program provides opportunities for them to solve engineering problems, promote original thought, illustrate the work expected of engineers and stimulate interest and enthusiasm for design. Seniors design teams work on comprehensive, open-ended projects involving scope and definition, evaluation of alternatives on the basis of economic, social, environmental, and other factors, concluding with the preparation of a functional design, plans, specifications and final cost estimates.

### Program Educational Objectives

The civil engineering program at South Dakota State University is committed to preparing students to achieve the following educational objectives within five years beyond the baccalaureate degree.

1. Graduates will have obtained professional licensure or specialized certification.
2. Graduates will have engaged in professional development and life-long learning through earning advanced degrees, attending continuing education forums, or active participation in professional organizations.
3. Graduates will have become actively involved in their profession, communities, and global society with a trajectory towards leadership positions.

### Student Outcomes

The program's mission and educational objectives are accomplished by providing undergraduate students with an educational program that will result in the following outcomes by the time of graduation:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

### Accreditation, Certification, and Licensure

The Civil Engineering (B.S.) program at SDSU is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org.

The Fundamentals of Engineering examination is a national licensure examination that covers material taught in an ABET-accredited engineering program. This exam is a graduation requirement for the B.S. in Civil Engineering program and for any engineer who wishes to become licensed as a Professional Engineer.

### Academic Requirements

The following requirements must be met to earn a Bachelor of Science Degree in Civil Engineering:

- Combined average of "C" or better in the Civil Engineering courses;
- Combined average of "C" or better in the mathematics courses;
- Combined average of "C" or better in EM 214, EM 215, EM 321, and EM 331.
- Minimum grade of "C" in MATH 123 and MATH 125. Students that fail to earn a "C" or better in any of these courses will be required to take them in subsequent semesters until the requirement is met.
- Students must take the Fundamentals of Engineering examination prior to graduation.

### Course Delivery Format

The Civil Engineering degree requires design coursework in five areas: structural, geotechnical, environmental, transportation, water resources and hydraulics engineering. These skills are applied in classroom, laboratory, and field-based settings.

### Requirements for Civil Engineering Major: 130 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3 or ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4 and PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4

### Major Requirements

- CEE 101 - Introduction to Civil Engineering Credits: 1
- CEE 106-106L - Elementary Surveying and Lab Credits: 3, 1
- CEE 216-216L - Civil Engineering Materials and Lab Credits: 2, 1
- CEE 225 - Principles of Environmental Science and Engineering Credits: 3
- CEE 282 - Civil Engineering Computer-Aided Design Credits: 3
- CEE 311 - Structural Materials Lab Credits: 1
- CEE 323 - Water Supply and Wastewater Engineering Credits: 3
- CEE 331 - Fluid Mechanics Lab Credits: 1
- CEE 340-340L - Engineering Geology and Lab Credits: 3
- CEE 346-346L - Geotechnical Engineering (COM) and Lab Credits: 4
- CEE 353 - Structural Theory (COM) Credits: 3
- CEE 363 - Highway and Traffic Engineering Credits: 3
- CEE 432 - Hydraulic Engineering Credits: 3
- CEE 455 - Steel Design Credits: 3
- CEE 456 - Concrete Theory and Design (COM) Credits: 3
- CEE 464 - Civil Engineering Capstone Design I (COM) Credits: 1
- CEE 465 - Civil Engineering Capstone Design II (COM) Credits: 2
- CEE 482 - Engineering Administration Credits: 3
- CEE 488 - Professional Seminar Credits: 1
- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1 (CHEM 114L is not required for Civil Engineering majors)
- EM 214 - Statics (COM) Credits: 3
- EM 215 - Dynamics Credits: 3
- EM 321 - Mechanics of Materials (COM) Credits: 3
- EM 331 - Fluid Mechanics (COM) Credits: 3
- GE 101 - Introduction to Engineering and Technical Professions Credits: 1
- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3

### Technical Electives

Complete a total of five technical elective courses with no more than three courses in any one of the five technical areas. Technical electives must be in at least two technical content areas. One technical elective must contain substantive design content (designated with an *). Technical electives require approval by the advisor or department head. Credits: 15

Technical Areas:

E – Environmental
G – Geotechnical
S – Structural
T – Transportation
W – Water Resources

- CEE 411-411L/511-511L - Asphalt Materials and Mix Design and Lab Credits: 3 [T]*
- CEE 422-422L/522-522L - Environmental Engineering Instrumentation and Lab Credits: 3 [E]
- CEE 423-523 - Municipal Water Distribution and Collection System Design Credits: 3 [W] *
- CEE 424-524 - Industrial Waste Treatment Credits: 3 [E] *
- CEE 434-534 - Hydrology Credits: 3 [W] *
- CEE 435-535 - Water Resources Engineering Credits: 3 [W]
- CEE 436-536 - Advanced Hydraulic Engineering Credits: 3 [W]
- CEE 438-538 - Environmental Fluid Mechanics Credits: 3 [W]
- CEE 443-543 - Matrix Analysis of Structures Credits: 3 [S]
- CEE 446-546 - Advanced Geotechnical Engineering Credits: 3 [G] *
- CEE 447-547 - Foundation Engineering (COM) Credits: 3 [G] *
- CEE 452-552 - Prestressed Concrete Credits: 3 [S] *
- CEE 458-558 - Design of Timber Structures Credits: 3 [S] *

- CEE 467-567 - Transportation Engineering Credits: 3 T *
- CEE 492-592 - Topics (COM) Credits: 1-3
- CEE 498 - Undergraduate Research/Scholarship (COM) Credits: 1-6

**Total Required Credits: 130**

**Summary of Program Requirements**

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Major Requirements | 82 Credit Hours |
| Technical Electives | 15 Credit Hours |
| Electives** | 0 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Civil Engineering (B.S.)

## Communication Studies (B.A./B.S.)

### Program Coordinator/Contact

Joshua Westwick, Director
School of Communication and Journalism
Yeager Hall 211, Box 2235
605-688-4171

### Program Information

A major in Communication Studies prepares students to understand the central role that communication plays in people's lives. Graduates of this program will receive the training, expertise and background that will promote professional success in a wide variety of career areas where communication is a critical requirement.

### Student Learning Outcomes

Graduates in Communication Studies will be able to:

- Describe the Communication discipline and its central questions by employing communication theories, perspectives, principles, and concepts.
- Engage in Communication inquiry.
- Create and critically analyze messages appropriate to the audience, purpose, and context.
- Demonstrate the ability to accomplish communicative goals (self-efficacy).
- Prepare for ethical public influence that embraces differences.

### Academic Requirements

A minimum grade of "C" or better is required in all major courses.

### Course Delivery Format

A wide range of course formats are available in this major including, lectures, laboratory, small group, seminar, interactive and collaborative partnerships.

### Requirements for Communication Studies Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- CMST 201 - Interpersonal Communication (COM) [SGR #3] Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
  or CMST 311 - Business and Professional Communication (COM) Credits: 3
- CMST 222 - Argumentation and Debate (COM) [SGR #2] Credits: 3
- CMST 305 - Communication Research (COM) Credits: 3
- CMST 405 - Theories of Communication (COM) Credits: 3
- CMST 410-510 - Organizational Communication (COM) Credits: 3
- CMST 422 - Persuasion (COM) Credits: 3
- CMST 434 - Small Group Communication (COM) Credits: 3
- CMST 465 - Capstone: Communication Studies Credits: 3 (Capstone)
- CMST 470 - Intercultural Communication (COM) Credits: 3
- MCOM 119 - First-Year Seminar in Communication and Journalism Credits: 2

### Select from the following

Select 9 credits from the following. Credits: 9

- CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
  or CMST 311 - Business and Professional Communication (COM) Credits: 3
- CMST 281 - Speech and Debate Activities (COM) Credits: 1-4
- CMST 320 - Communication in Interviewing (COM) Credits: 3
- CMST 401-501 - Advanced Interpersonal Communication (COM) Credits: 3
- CMST 415-515 - Communication and Gender (COM) Credits: 3
- CMST 416-516 - Rhetorical Criticism (COM) Credits: 3
- CMST 440-540 - Health Communication (COM) Credits: 3
- CMST 441-541 - Health Communication Campaigns Credits: 3
- CMST 491-591 - Independent Study (COM) Credits: 1-3
- CMST 492-592 - Topics (COM) Credits: 1-5 (1-3 credits required)
- CMST 494 - Internship (COM) Credits: 1-16 (1-3 credits required)
- CMST 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4

### Electives

Taken as needed to complete any additional degree requirements.

**Total Required Credits: 120**

**Summary of Program Requirements**

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 41 Credit Hours |
| Electives** | 40 Credit Hours |

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 41 Credit Hours |
| Electives** | 42 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Communication Studies (B.A.)
- Communication Studies (B.S.)

## Communication Studies (B.A./B.S.) - Speech Education Specialization

### Program Coordinator/Contact

Joshua Westwick, Director
School of Communication and Journalism
Yeager Hall 211, Box 2235
605-688-4171

### Program Information

This area of specialization is designed for the person who plans to become a communication educator. While the emphasis is primarily on secondary education, the area can serve as a specialization for teaching higher education as well.

### Student Learning Outcomes

Graduates will be prepared to:

- Describe the Communication discipline and its central questions by employing communication theories, perspectives, principles, and concepts.
- Engage in Communication inquiry.
- Create and critically analyze messages appropriate to the audience, purpose, and context.
- Demonstrate the ability to accomplish communicative goals (self-efficacy).
- Prepare for ethical public influence that embraces differences.

### Academic Requirements

- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's Secondary preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Courses utilize lecture, laboratory, small group, collaborative and integrative techniques.

### Requirements for Communication Studies Major - Speech Education Specialization: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6 (recommended SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3 and/or PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3)
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- CMST 201 - Interpersonal Communication (COM) [SGR #3] Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
  or CMST 311 - Business and Professional Communication (COM) Credits: 3
- CMST 222 - Argumentation and Debate (COM) [SGR #2] Credits: 3
- CMST 281 - Speech and Debate Activities (COM) Credits: 1-4 (3 credits required) (Complete over two consecutive semesters)
- CMST 305 - Communication Research (COM) Credits: 3
- CMST 434 - Small Group Communication (COM) Credits: 3
- CMST 470 - Intercultural Communication (COM) Credits: 3
- CMST 491-591 - Independent Study (COM) Credits: 1-3 (1 credit required) (Forensic Team Management)
- CMST and/or MCOM Electives Credits: 5
- ENGL 424 - 7-12 Language Arts Methods Credits: 3
- MCOM 119 - First-Year Seminar in Communication and Journalism Credits: 2
- MCOM 151 - Introduction to Mass Communication (COM) [SGR #4] Credits: 3
- MCOM 416-516 - Mass Media in Society Credits: 3

### Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3 (College Requirement)
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- ENGL 424 - 7-12 Language Arts Methods Credits: 3 (Teaching Content Methods Requirement) (Major Requirement)
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

#### Bachelor of Arts

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 38 Credit Hours |
| Teaching Specialization Requirements | 31 Credit Hours |
| Electives** | 12 Credit Hours |

#### Bachelor of Science

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 38 Credit Hours |
| Teaching Specialization Requirements | 31 Credit Hours |
| Electives** | 14 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Communication Studies (B.A.) - Speech Education Specialization
- Communication Studies (B.S.) - Speech Education Specialization

## Community & Public Health (B.S.)

### Program Coordinator/Contact

September Kirby, MS, RN, Program Coordinator
School of Health and Consumer Sciences
Wagner Hall 403, Box 2275A
605-688-5387

### Program Information

The Community and Public Health Education program is designed to prepare students in planning, implementing, delivering and evaluating health programs that will improve the quality of life of individuals, groups and communities.

Majoring in Community and Public Health is an excellent foundation for students to apply to various graduate and professional programs in various areas, which may include: occupational therapy, accelerated nursing, physician's assistant, chiropractor, physical therapy school, health administration and counseling.

### Student Learning Outcomes

Upon completion of the Community and Public Health major, students will:

- Analyze factors that influence health and illness of individuals, groups or communities.
- Demonstrate the ability to communicate health information, in both oral and written forms, and through a variety of media, to diverse audiences.
- Demonstrate knowledge of contributions made by individuals from diverse and/or underrepresented groups to one's local, national and global communities.
- Assess and reflect personal values in relation to current issues and ethical dilemmas within the health profession.
- Demonstrate the ability to locate, use, evaluate and synthesize health information.
- Students will consider perspectives of diverse groups when planning, implementing and evaluating health programs.
- Productively participate within a group.

### Academic Requirements

A minimum final grade of "C" is required in all Major Requirements courses.

### Course Delivery Format

Instruction for the Community and Public Health major occurs through face to face and online course delivery methods.

### Requirements for Community and Public Health Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 and HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: MCOM 151 - Introduction to Mass Communication (COM) [SGR #4] Credits: 3 and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3 Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1 OR CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- CHRD 475 - Motivational Interviewing and Wellness Counseling Credits: 3
- CMST 440-540 - Health Communication (COM) Credits: 3
- ENGL 379 - Technical Communication (COM) Credits: 3
- EXS 350 - Exercise Physiology (COM) Credits: 2-3
- HDFS 247 - Human Development III: Adulthood Credits: 3
- HLTH 100-100L - Wellness for Life and Lab (COM) Credits: 2
- HLTH 200 - Integrative Holistic Healthcare Credits: 3
- HLTH 220 - Social Determinants of Health Credits: 3
- HLTH 320 - Community Health (COM) Credits: 3
- HLTH 350 - Health Education Professional Development Credits: 3
- HLTH 405-505 - Health Coaching Concepts and Skills Credits: 3
- HLTH 443 - Public Health Science Credits: 3
- HLTH 445 - Epidemiology Credits: 3
- HLTH/ BLAW 451-551 - Public Health Law Credits: 3
- HLTH 475 - Principles of Community Health Education Credits: 3
- HLTH 479-479L - Health Promotion Programming and Evaluation and Lab Credits: 2
- HLTH 495 - Practicum (COM) Credits: 1-3 (3 credits required)
- NURS 201 - Medical Terminology Credits: 1
- NUTR 111 - Food, People and the Environment Credits: 3
- NUTR 315 - Human Nutrition (COM) Credits: 3
- PSYC 358 - Behavior Modification Credits: 3
- PSYC 417 - Health Psychology (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

#### Bachelor of Science

| | |
|---|---|
| System General Education Requirements | 32-33 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 70 Credit Hours |
| Electives** | 13-14 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Community and Public Health (B.S.)

## Community & Regional Planning (B.S.)

### Program Coordinator/Contact

Bob Watrel, Department Head
Department of Geography and Geospatial Sciences
109 Wecota Hall
605-688-4511

### Program Information

The Community and Regional Planning major prepares students for careers in planning agencies where they can attain positions as city managers and community planners at the city, county, state or regional level. The program also qualifies graduates to hold positions in organizations such as housing agencies, community and neighborhood development corporations, economic development agencies, federal agencies and private development firms and foundations. The core requirements consist of such topics as planning theory and law, plan development, quantitative and qualitative skills, and values and ethnics. The City/Community Design, Environmental, and Land Use emphases give students the opportunities to cultivate specialized knowledge and skills in domains that range from social and political aspects of planning to technical areas based on engineering and design that best prepares them for more focused career pathways.

### Student Learning Outcomes

Upon completion of the Community and Regional Planning major, students will:

- Acquire planning process methods by developing tools for stakeholder involvement and community engagement and working with diverse communities. They will acquire skills in governance and participation by appreciating the roles of officials, stakeholders, and community members in planned change.
- Demonstrate foundational and specialized knowledge concerning the meaning of planning, planning theory, planning law, and human settlements and the history of planning.
- Understand professional ethics and responsibility by learning the key issues of planning ethics and related questions of the ethics of public decision-making, research, and client representation.
- Information Literacy
- Explore the future scenarios by understanding of the relationships between past, present, and future in planning domains, as well as the potential for methods of design, analysis, and intervention to influence the future. They also will demonstrate proficiency in global dimensions of planning by appreciating interactions, flows of people and materials, cultures, and differing approaches to planning across world regions.
- Acquire the ability to create and implement plans using integrative tools sound plan formulation, adoption, and implementation and enforcement. They will create sustainability and environmental quality by appreciating natural resource and pollution control factors in planning, and understanding of how to create sustainable futures. They will understand growth and development by appreciating economic, social, and cultural factors in urban and regional growth and change.
- Acquire leadership skills by learning how to use tools for attention, formation, strategic decision-making, team building, and organizational/community motivation.
- Demonstrate openness to new perspectives and diverse others, evaluate the complexity inherent to multiple perspectives, and demonstrate the ability to reassess their personal perspective when appropriate, particularly in regard to social justice and equity concerns in planning.

### Course Delivery Format

The Community and Regional Planning program includes lectures, discussions, fieldwork, and travel, with limited online coursework.

### Requirements for Community and Regional Planning Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: POLS 210 - State and Local Government (COM) [SGR #3] Credits: 3 and SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: ARCH 241 - Construction History [SGR #4] Credits: 3 and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: SGR #6 Elective Credits: 6

### Department of Geography and Geospatial Sciences Requirements

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details.

### Major Requirements

- ARCH 443-543 - Urban History Credits: 3
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- GEOG 421-521 - Research Methods in Geography Credits: 3
- GEOG 454-554 - Sustainable Communities Credits: 3 (Capstone)
- GEOG 461-561 - Urban Geography Credits: 3
  or SOC 460 - Advanced Criminology (COM) Credits: 3
- LA 251 - Site Analysis Credits: 4
- LA 252 - Site Planning Credits: 4
- LA 341 - Public and Social Place Design Credits: 3
- PHIL 454 - Environmental Ethics (COM) Credits: 3
- PLAN 471-571 - Principles of State, Regional and Community Planning Credits: 3
- PLAN 472-572 - Techniques of State, Regional and Community Planning Credits: 3

### Select one of the following

Select 15 credits from one of the following emphases. Credits: 15

### Development Emphasis

- BLAW 433 - Real Estate (COM) Credits: 3
- CM 485-485L/585-585L - Site Development and Feasibility Analysis and Lab Credits: 3
- GEOG 351 - Economic Geography Credits: 3

### Select from the following

Select two courses from the following. Credits: 6

- FCSE 332 - Housing in Family & Consumer Sciences Education Credits: 3
- GEOG 365 - Land Use and Planning Credits: 3
- ID 318 - Building Codes and Regulations Credits: 3
- LA 331 - Landscape Architecture Site Engineering Credits: 3
- LA 351 - Community and Housing Design Credits: 4
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- NRM 321 - Park Interpretation Credits: 3

### Environmental Emphasis

- AGEC 462-562 - Environmental Law Credits: 3
  or NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- EES 275 - Introduction to Environmental Science Credits: 3
- GEOG 415-515 - Environmental Geography and Sustainability Credits: 3

### Select from the following

Select two courses from the following. Credits: 6

- AIS 430-530 - Indigenous Relationships to the Environment Credits: 3
- CEE 225 - Principles of Environmental Science and Engineering Credits: 3
- CM 460-560 - Sustainable Building Systems Concepts and Analysis Credits: 3
- ECON 472-572 - Resource and Environmental Economics (COM) Credits: 3
- LA 331 - Landscape Architecture Site Engineering Credits: 3
- NRM 221 - Introduction to Conservation Planning and Management Credits: 3
- SOC 245 - Environment and Society Credits: 3

### Government Emphasis

- GEOG 365 - Land Use and Planning Credits: 3
- ECON 433-533 - Public Finance (COM) Credits: 3
  or POLS 320 - Public Administration (COM) Credits: 3
- POLS 337 - Constitutional Law: Government Powers Credits: 3
  or POLS 338 - Constitutional Law: Civil Rights and Liberties Credits: 3

### Select from the following

Select two courses from the following. Credits: 6

- BLAW 433 - Real Estate (COM) Credits: 3
- CEE 363 - Highway and Traffic Engineering Credits: 3
- ID 318 - Building Codes and Regulations Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- LA 342 - City Planning Credits: 3
- LA 351 - Community and Housing Design Credits: 4
- LMNO 301 - Fundraising and Resource Development Credits: 3
- POLS 434 - Interest Groups and Lobbying (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| Department of Geography and Geospatial Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 53 Credit Hours |
| Electives** | 30 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Community and Regional Planning (B.S.)

## Computer Science (B.S.)

### Program Coordinator/Contact

Siddharth Suryanarayanan, Department Head
Department of Electrical Engineering and Computer Science
Daktronics Engineering Hall 214
605-688-4526

### Program Information

Computer Scientists play key roles in many walks of life in today's society. Graduates of the program work in many different areas such as; application programmer, network designer, database administrator, information technologist, game development, and many others. CS related jobs are among the ten fastest growing careers that show a lot of promise and opportunity for growth.

Majors complete a core of basic computer science courses that includes the study of programming and algorithms, data structures, database concepts, computer architecture and organization, programming languages, compilers, operating systems, and software engineering. Important courses in closely related fields, e.g., discrete mathematics, digital logic design, scientific computation, and probability and statistics are also taken. Computer Science students are required to study all aspects of computing, including hardware, software, and theory.

The program begins the first year developing a strong foundation in programming, mathematics, and communication. Following this is another year of study in data structures and object oriented programming along with hardware-based courses that provides the student with a firm grasp of the interaction between hardware and software. The junior and senior years include courses that cover the breadth and depth of the field. Students will select a specialization and take technical electives in their chosen area. The capstone of the program is Senior Design I and II, a two-semester sequence taken in the senior year that places every student on a team that designs, builds, tests, and demonstrates a significant computer science/software engineering project. The projects are developed in collaboration with SDSU researchers or industry and provide students' valuable "real world" team design experience.

### Program Educational Objectives

The undergraduate CS program educational objectives are to equip individuals, who after graduation and initial work experience, to

1. provide innovative and state-of-the-art approaches to solving complex technical problems through application of sound computer science principles and make high quality technical decisions based on accumulated knowledge, experience, wisdom and common sense.
2. create positive organizational impact through individual contribution and teamwork with a commitment to working with others of diverse culture and interdisciplinary backgrounds.
3. demonstrate professional stewardship and ethical responsibility and exemplify a productive member of society by serving their communities and society.
4. illustrate initiative and successful career growth through measurable and impactful contributions that strongly support the organization's core high-level goals, accompanied by lifelong learning through graduate work, professional development, and self-study, leading to increases in organizational responsibility.

### Student Outcomes

The program will enable students to attain, by the time of graduation:

1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

### Academic Requirements

Computer Science students must pass all CSC and SE courses with a grade of C or better. All graduating seniors are required to take the Major Field Test in Computer Science, which is given once per semester.

### Accreditation, Licensure, and Certification

The Computer Science (B.S.) program at SDSU is accredited by the Computing Accreditation Commission of ABET, https://www.abet.org.

### Course Delivery Format

A majority of the courses are taught on campus in smart classrooms. The smart classrooms allow for a variety of methods for student engagement and faculty are able to record and post their lectures on-line.

### Requirements for Computer Science Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: INFO 102 - Data Ethics [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4

- Goal #6 Natural Sciences: PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4 and PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4 or PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4 and PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4 or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1 or BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4 and BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4

### Major Requirements

- CSC 100L - Introduction to Computer Science Lab Credits: 1
- CSC 150 - Computer Science I (COM) Credits: 3
- CSC 244-244L - Digital Logic and Lab Credits: 3, 1
- CSC 250 - Computer Science II (COM) Credits: 3
- CSC 300 - Data Structures (COM) Credits: 3
- CSC 303 - Ethical and Security Issues in Computing Credits: 3
- CSC 314 - Assembly Language (COM) Credits: 3
- CSC 317 - Computer Organization and Architecture (COM) Credits: 3
- CSC 346 - Object Oriented Programming Credits: 3
- CSC 354 - Introduction to Systems Programming Credits: 3
- CSC 445 - Introduction to Theory of Computation (COM) Credits: 3
- CSC 446 - Compiler Construction Credits: 3
- CSC 456 - Operating Systems (COM) Credits: 3
- CSC 461 - Programming Languages (COM) Credits: 3
- CSC 464 - Senior Design I (COM) Credits: 2
- CSC 465 - Senior Design II (COM) Credits: 2
- CSC 484 - Database Management Systems (COM) Credits: 3
- CSC 3/4XX Technical Electives Credits: 12
  *A minimum of 9 of the 12 technical credits must be in approved CSC or SE courses.
  *3 of the 12 credits may come from a departmental approved support area.
- SE 305 - Foundations of Software Engineering Credits: 3
- SE 306 - Software Project Management and Testing Credits: 3

### Supporting Coursework

- GE 101 - Introduction to Engineering and Technical Professions Credits: 1
- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 250 - Introduction to Linear Algebra and Proof Credits: 3
- MATH 316 - Discrete Mathematics (COM) Credits: 3
- MATH 374 - Scientific Computation I Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
- Natural Science (Different course than SGR #6)
  PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
  or PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4
  or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
  or BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4

### Total Required Credits: 120

### Cooperative Education

Students have the opportunity to work in industry and receive technical elective credit for the experience through CSC 494 Internship. A formal work plan must be approved by the Computer Science administration prior to the work experience. Further information can be found in the Program's Internship and Cooperative Education policy, located on the program's website.

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Major Requirements | 66 Credit Hours |
| Supporting Coursework | 21 Credit Hours |
| Electives** | 0 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Computer Science (B.S.)

## Concrete Industry Management (B.S.)

### Program Coordinator/Contact

Tim Hostettler, Program Director
Department of Construction and Operations Management
Solberg Hall 115B
605-688-6998

### Program Information

Graduates of the Concrete Industry Management program will fill the growing demand for technical managers in pre-stressed concrete product manufacturing, ready-mix sales and marketing, and supply chain management for regional concrete producers. The Concrete Industry Management (CIM) program has been developed by and is supported by the Regional Patrons Group representing SD, ND, MN, IA, NE, WI, IL, MI, and MO – a region that has high demand for graduates of CIM programs. As you progress through the program, you will be able to earn two American Concrete Industry technical certifications, a Management or Marketing minor, and participate in paid internships with potential future employers.

### Student Learning Outcomes

Students who complete the B.S. in Concrete Industry Management will:

- An ability to apply knowledge of mathematics, science, and technology to technical problems.
- A knowledge of modern techniques, tools, and concrete construction methods.
- An ability to conduct standard tests and experiments, to analyze and interpret data.
- An understanding of principles of concrete production, efficiency and quality management procedures.
- An ability to communicate effectively in oral and written forms and demonstrate effective teamwork skills.
- An understanding of the legal, professional and ethical responsibilities of the profession.
- An ability to apply basic accounting and management principles applicable to the concrete industry.

### Course Delivery Format

Course content is delivered on the Brookings campus in classroom, laboratory, and field based settings.

### Requirements for Concrete Industry Management Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3 or ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Elective Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 and PS 243 - Principles of Geology [SGR #6] Credits: 3

### Major Requirements

- CIM 101 - Introduction to Concrete Industry Management Credits: 2
- CIM 125 - Plans and Specifications Credits: 1
- CIM 210-210L - Fundamentals of Concrete: Properties and Testing and Lab Credits: 3, 1

- CIM 216 - Concrete Methods and Materials Credits: 3
- CIM 230 - Concrete Construction Systems Credits: 3
- CIM 310 - Management of Concrete Facilities Credits: 3
- CIM 350 - Concrete Applications and Estimating Credits: 3
- CIM 370 - Concrete Production and Strategy Credits: 3
- CIM 440-440L - Advanced Concrete Materials and Lab Credits: 3, 1
- CIM 450 - Concrete Restoration and Repair Credits: 3
- CIM 471 - Capstone Experience Credits: 3
- CIM 494 - Internship (COM) Credits: 1-3 (3 credits required)
- CM 130 - Management Tools and Analysis Credits: 3
- CM 400-500 - Risk Management and Construction Safety Credits: 3
  or GE 425-525 - Occupational Safety and Health Management Credits: 3
- CM 460-560 - Sustainable Building Systems Concepts and Analysis Credits: 3
- CM 473-573 - Construction Law and Contracts Credits: 3
- MNET 367-367L - Production Strategy and Lab Credits: 3
- Any 200- to 400-Level CM, OM, GE course or Advisor Approved Technical Elective Credits: 8

### Supporting Coursework

- GE 101 - Introduction to Engineering and Technical Professions Credits: 1
- GE 469 - Project Management Credits: 3
- OM 425 - Production and Operations Management Credits: 3
- OM 463-563 - Supply Chain Management Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Select one of the following

### Management Minor

Credits: 18

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- BADM/ MGMT 360 - Organization and Management (COM) Credits: 3
- CSC/ MGMT 325 - Management Information Systems (COM) Credits: 3
- FIN 310 - Business Finance (COM) Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3

### Marketing Minor

Credits: 18

- ADV 314 - Digital Promotions Credits: 3
- ADV 370 - Advertising Principles (COM) Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3
- MKTG 474 - Personal Selling (COM) Credits: 3
- MKTG 476-576 - Marketing Research (COM) Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 31 Credit Hours |
| Major Requirements | 58 Credit Hours |
| Supporting Coursework | 31 Credit Hours |
| Electives** | 0 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Concrete Industry Management (B.S.)

## Conservation Planning & Park Management (B.S.)

### Program Coordinator/Contact

Jennifer Zavaleta Cheek, Assistant Professor
Department of Natural Resource Management
Edgar S. McFadden Biostress Laboratory, Room 138
605-688-6121

### Program Information

Conservation Planning and Park Management is an interdisciplinary science that trains students to develop conservation strategies at landscape scales. This program will prepare students for careers in Park Management, Landscape Conservation Planning, Natural Areas Management, Land Use Planning, and as a Park Ranger, and Interpretive/Naturalist.

### Student Learning Outcomes

Conservation Planning and Park Management graduates will:

- Demonstrate understanding of ecological and environmental principles required for management of natural resources for multiple-uses, including (but not limited to) wildlife habitat, water management, ecosystems services, recreation, and livestock production.
- Describe how natural resource management fits into the context of society and how societal factors (e.g., economics, policy, laws, regulations, attitudes, behaviors, norms) influence natural resource management.
- Lead and work with others as appropriate to successfully manage natural resources.
- Demonstrate appropriate use of natural resource field & lab techniques as well as contemporary technology.
- Analyze and critically evaluate data and other information.
- Effectively communicate (both written and orally) with both scientific and non-scientific audiences.
- Demonstrate an understanding of the professional and ethical responsibility that is necessary for a natural resource manager.

### Course Delivery Format

Conservation Planning and Park Management coursework is delivered on-campus in lecture, discussion, and laboratory settings, and off-campus in numerous field-based settings.

### Requirements for Conservation Planning and Park Management Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and POLS 210 - State and Local Government (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3 (Major Requirement)
- NRM 221 - Introduction to Conservation Planning and Management Credits: 3 (Major Requirement)

- NRM 282-282L - Natural Resource Statistics and Lab Credits: 3 (Major Requirement)
- NRM 311 - Principles of Ecology (COM) Credits: 3 (Major Requirement)

### Major Requirements

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3
- GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4
  or GEOG 132-132L - Physical Geography: Natural Landscapes and Lab (COM) [SGR #6] Credits: 4
- GEOG 365 - Land Use and Planning Credits: 3
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- HO 339 - Arboriculture and Urban Forestry Credits: 3
  or BOT 303-303L - Forest Ecology and Management and Lab Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- NRM 119 - Orientation to Natural Resource Management Credits: 2
- NRM 221 - Introduction to Conservation Planning and Management Credits: 3
- NRM 230 - Natural Resource Management Techniques Credits: 2
- NRM 276 - Scientific Communications Credits: 1
- NRM 282-282L - Natural Resource Statistics and Lab Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3
- NRM 321 - Park Interpretation Credits: 3
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- RANG 321 - Wildland Ecosystems Credits: 3
- RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4
- RECR 140 - Introduction to Sport, Recreation and Park Management Credits: 3
- RECR 402-502 - Outdoor Recreation Resources Management Credits: 3
- WL 430 - Human Dimensions in Natural Resource Management Credits: 3

### Major Electives

Select 21 credits from the following. Credits: 21

- BIOL 373 - Evolution (COM) Credits: 3
- BOT 301-301L - Plant Systematics (COM) Credits: 3
- BOT 303-303L - Forest Ecology and Management and Lab Credits: 3
- BOT 405-405L/505-505L - Grasses and Grasslike Plants and Lab Credits: 3
- BOT 419-419L - Plant Ecology and Lab (COM) Credits: 3
- CEE 434-534 - Hydrology Credits: 3
- EES 430-430L/530-530L - Biological Invasions and Lab Credits: 3
- GEOG 473-473L/573-573L - GIS: Data Creation and Integration and Lab (COM) Credits: 3
- GEOG 474-474L/574-574L - GIS: Vector and Raster Modeling and Lab Credits: 3
- GEOG 475-475L/575-575L - GIS Applications and Lab Credits: 3
- GEOG 484-484L/584-584L - Remote Sensing and Lab (COM) Credits: 3
- HO 339 - Arboriculture and Urban Forestry Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- LA 331 - Landscape Architecture Site Engineering Credits: 3
- LA 341 - Public and Social Place Design Credits: 3
- LA 352 - Planting and Ecological Design Credits: 4
- MGMT 360 - Organization and Management (COM) Credits: 3
- MICR 310-310L - Environmental Microbiology and Lab Credits: 4
- MICR 421-421L/521-521L - Soil Microbiology and Lab Credits: 3
- NRM 200-200L - Animal Diversity and Lab Credits: 3
- NRM 450-450L/550-550L - Freshwater Monitoring and Assessment and Lab Credits: 3
- NRM 466-566 - Environmental Toxicology and Contaminants (COM) Credits: 3
- NRM 482-482L/582-582L - Natural Resource Management Biometry Credits: 3
- PRAG 340 - Climate Risk Management with Precision Agriculture Credits: 3
- PS 210-210L - Turf and Weed Management in Horticulture and Lab Credits: 3
- RANG 210-210L - Range Plant Identification and Lab Credits: 2
- RANG 421-521 - Grassland Fire Ecology Credits: 3
- RANG 425-425L/525-525L - Rangeland Assessment and Monitoring Lab Credits: 3
- RECR 302 - Commercial Recreation and Tourism Credits: 3
- RECR 360 - Sport, Recreation and Park Programming Credits: 3
- RECR 415-515 - Sport and Recreation Facility Management Credits: 3
- WL 355-355L - Mammalogy and Lab (COM) Credits: 3
- WL 363-363L - Ornithology and Lab (COM) Credits: 4
- WL 367-367L - Ichthyology and Lab Credits: 3
- WL 411-411L - Principles of Wildlife Management and Lab Credits: 3
- WL 412-412L - Principles of Fisheries Management and Lab Credits: 3
- WL 415-415L/515-515L - Upland Game Ecology and Management and Lab Credits: 3
- WL 417-417L/517-517L - Large Mammal Ecology and Management and Lab Credits: 3
- WL 419-419L/519-519L - Waterfowl Ecology and Management and Lab Credits: 3
- WL 425-425L/525-525L - Wildlife Nutrition and Disease and Lab Credits: 3
- WL 427-427L/527-527L - Limnology and Lab Credits: 3
- WL 431-431L/531-531L - Advanced Fisheries Management and Lab Credits: 3
- WL 434-434L - Herpetology and Lab (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

#### Bachelor of Science

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 82 Credit Hours |
| Electives** | 6 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Conservation Planning and Park Management (B.S.)

## Conservation Planning & Park Management (B.S.) - Park Administration & Management Specialization

### Program Coordinator/Contact

Jennifer Zavaleta Cheek, Assistant Professor
Department of Natural Resource Management
Edgar S. McFadden Biostress Laboratory, Room 138
605-688-6121

### Program Information

Conservation Planning and Park Management is an interdisciplinary science that trains students to develop conservation strategies at landscape scales. The specialization in Park Administration and Management prepares student for careers in park management, particularly Federal and state government managed facilities. The courses outlined in this specialization are designed to enhance the human management focus needed for this career track.

### Student Learning Outcomes

Conservation Planning and Park Management graduates will:

- Demonstrate understanding of ecological and environmental principles required for management of natural resources for multiple-uses, including (but not limited to) wildlife habitat, water management, ecosystems services, recreation, and livestock production.

- Describe how natural resource management fits into the context of society and how societal factors (e.g., economics, policy, laws, regulations, attitudes, behaviors, norms) influence natural resource management.
- Lead and work with others as appropriate to successfully manage natural resources.
- Demonstrate appropriate use of natural resource field & lab techniques as well as contemporary technology.
- Analyze and critically evaluate data and other information.
- Effectively communicate (both written and orally) with both scientific and non-scientific audiences.
- Demonstrate an understanding of the professional and ethical responsibility that is necessary for a natural resource manager.

### Course Delivery Format

Conservation Planning and Park Management coursework is delivered on-campus in lecture, discussion, and laboratory settings, and off-campus in numerous field-based settings.

### Requirements for Conservation Planning and Park Management Major - Park Administration and Management Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and POLS 210 - State and Local Government (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3 (Major Requirement)
- NRM 221 - Introduction to Conservation Planning and Management Credits: 3 (Major Requirement)
- NRM 282-282L - Natural Resource Statistics and Lab Credits: 3 (Major Requirement)
- NRM 311 - Principles of Ecology (COM) Credits: 3 (Major Requirement)

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3
- BOT 301-301L - Plant Systematics (COM) Credits: 3
  or BOT 405-405L/505-505L - Grasses and Grasslike Plants and Lab Credits: 3
  or BOT 419-419L - Plant Ecology and Lab (COM) Credits: 3
- GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4
  or GEOG 132-132L - Physical Geography: Natural Landscapes and Lab (COM) [SGR #6] Credits: 4
- GEOG 365 - Land Use and Planning Credits: 3
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- HO 339 - Arboriculture and Urban Forestry Credits: 3
  or BOT 303-303L - Forest Ecology and Management and Lab Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- NRM 119 - Orientation to Natural Resource Management Credits: 2
- NRM 221 - Introduction to Conservation Planning and Management Credits: 3
- NRM 230 - Natural Resource Management Techniques Credits: 2
- NRM 276 - Scientific Communications Credits: 1
- NRM 282-282L - Natural Resource Statistics and Lab Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3
- NRM 321 - Park Interpretation Credits: 3
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- RANG 321 - Wildland Ecosystems Credits: 3
- RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4
- RECR 140 - Introduction to Sport, Recreation and Park Management Credits: 3
- RECR 402-502 - Outdoor Recreation Resources Management Credits: 3
- WL 430 - Human Dimensions in Natural Resource Management Credits: 3

### Select from the following

Select three courses from the following list. Credits: 9

- BADM/ MGMT 360 - Organization and Management (COM) Credits: 3
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- CM 216 - Construction Methods and Materials Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3

### Select from the following

Select two of the following. Credits: 6

- RECR 302 - Commercial Recreation and Tourism Credits: 3
- RECR 360 - Sport, Recreation and Park Programming Credits: 3
- RECR 415-515 - Sport and Recreation Facility Management Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 79 Credit Hours |
| Electives** | 9 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Conservation Planning and Park Management (B.S.) - Park Administration and Management Specialization

## Construction Management (B.S.)

### Program Coordinator/Contact

Suzette Burckhard, Interim Department Head
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417

### Program Information

The Construction Management (CM) program prepares graduates to assume entry-level management positions in construction and related industries. Our CM curriculum is primarily focused on commercial building construction, the program also covers heavy-highway-utilities and residential construction. Regardless of the construction industry sector chosen, students will demonstrate the knowledge and skills to deliver construction projects with respect to scope, schedule, budget, quality, safety and the environment.

### Program Educational Outcomes

SDSU Construction Management graduates will become professionals who:

1. Achieve positions of increasing responsibility or leadership with employers, professional organizations or civic organizations as an indicator of professional competence, demonstrate the ability to communicate effectively, and successfully function in team environments;
2. Apply principles of contemporary management techniques, critical thinking skills, and mathematics and science to solve problems, and manage construction projects; and,
3. Continue to learn via professional organization engagement, continuing education, graduate degrees, employer-based training programs, or other development opportunities that increase productivity, open doors to promotion, and make them more effective managers.

### Student Outcomes

Upon graduation from the Construction Management program, our students will have:

1. An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
2. An ability to formulate or design a system, process, procedure or program to meet desired needs.
3. An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.
4. An ability to communicate effectively with a range of audiences.
5. An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.
6. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

### Accreditation, Certification, and Licensure

The Construction Management (B.S.) program at SDSU is accredited by the Applied and Natural Science Accreditation Commission of ABET, https://www.abet.org.

### Academic Requirements

Construction Management students must have a minimum grade of "C" in all construction courses that are designated as prerequisites to 300-400 level construction courses, have a 2.25 cumulative GPA.

### Course Delivery Format

The program provides coursework on the Brookings campus in classroom, laboratory, and field-based settings. The CM program has a dedicated computer lab for CAD, estimating, project management, and building information modeling courses and shared fabrication space in the AME Production Lab.

### Requirements for Construction Management Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1

### Major Requirements

- CM 124 - Construction Graphics Credits: 3
- CM 130 - Management Tools and Analysis Credits: 3
- CM 210-210L - Construction Surveying and Lab Credits: 3
- CM 216 - Construction Methods and Materials Credits: 3
- CM 216L - Construction Methods and Materials Lab Credits: 1
- CM 232 - Cost Estimating Credits: 3
- CM 320-320L - Construction Soil Mechanics and Lab Credits: 3
- CM 333 - Mechanical, Electrical, Plumbing Systems Credits: 3
- CM 352 - Advanced Estimating with BIM Credits: 3
- CM 353 - Construction Structures Credits: 3
- CM 374 - Heavy Construction Methods and Systems Credits: 3
- CM 400-500 - Risk Management and Construction Safety Credits: 3
- CM 410 - Construction Project Management and Supervision Credits: 3
- CM 443-553 - Construction Planning and Scheduling Credits: 3
- CM 471 - Capstone Experience Credits: 2
- CM 473-573 - Construction Law and Contracts Credits: 3
- CM 490 - Seminar (COM) Credits: 1
- Technical Electives Credits: 11

### Supporting Coursework

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- BADM 360 - Organization and Management (COM) Credits: 3
  or GE 385 - Introduction to Systems Engineering and Management Credits: 3
- CSC 325 - Management Information Systems (COM) Credits: 3
- FIN 310 - Business Finance (COM) Credits: 3
  or OM 460-560 - Engineering Economic Analysis Credits: 3
- GE 101 - Introduction to Engineering and Technical Professions Credits: 1
- GE 231 - Technology, Society, and Ethics Credits: 3
- GE 241 - Applied Mechanics Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
  or LDR 435 - Organizational Leadership and Team Development Credits: 3
- MATH 120 - Trigonometry (COM) [SGR #5] Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Total Required Credits: 120

### Internship Program

Students have the opportunity to work in industry and receive technical elective credit for the experience through CM 494. A formal work plan must be approved by the Internship Coordinator prior to registering for credit and entering the field. Further information can be found in the course syllabus and internship policy.

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| Major Requirements | 57 Credit Hours |
| Supporting Coursework | 31 Credit Hours |
| Electives** | 0 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

Construction Management (B.S.)

## Construction Technology (A.S.)

### Program Coordinator/Contact

Suzette Burckhard, Interim Department Head
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417

### Program Information

The Construction Technology program incorporates content in scheduling, construction materials, project control, and building methods with the liberal arts component of the system general education requirements. The major will prepare students for entry-level positions in construction and affiliated industries. The AS-CT is also online and courses are offered on a two-year completion schedule to meet the needs of working professionals. Completion of the Construction Technology major will allow students to transfer 60 credits of coursework towards the B.S. in Construction Management.

### Student Learning Outcomes

Upon graduation from the Construction Technology program, students will have an:

- Ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
- Ability to conduct experiments or test theories, as well as to analyze and interpret data.
- Ability to function on teams.
- Understanding of professional and ethical responsibility.
- Ability to communicate effectively.

### Course Delivery Format

Program courses are taught online and on campus.

### Requirements for Construction Technology Major: 60 Credits

*Associate of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and SGR #1 Elective Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Elective Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Elective Credits: 3
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 and SGR #6 Elective Credits: 3

### Major Requirements

- CM 124 - Construction Graphics Credits: 3
  or CM 230 - Applied Construction Planning Credits: 3
- CM 130 - Management Tools and Analysis Credits: 3
- CM 216 - Construction Methods and Materials Credits: 3
- CM 232 - Cost Estimating Credits: 3
- CM 250 - Construction Project Management I Credits: 2
- CM 333 - Mechanical, Electrical, Plumbing Systems Credits: 3
- GE 265 - Industrial Safety Credits: 3
- Technical Electives Credits: 6

### Supporting Coursework

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- GE 231 - Technology, Society, and Ethics Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 60

### Summary of Program Requirements

**Associate of Science**

| | |
|---|---|
| System General Education Requirements | 25 Credit Hours |
| Major Requirements | 26 Credit Hours |
| Supporting Coursework | 6 Credit Hours |
| Electives** | 3 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Construction Technology (A.S.)

## Consumer Affairs (B.S.) - Consumer Services Management Specialization

### Program Coordinator/Contact

Axton Betz-Hamilton, Program Leader
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5161

### Program Information

Students majoring in Consumer Affairs who pursue the Consumer Services Management specialization are usually interested in marketing, communication, human development, planning principles and working with individuals to develop personal management skills. Required courses for the Consumer Services Management specialization focus on the application of resource management concepts for families of varying structures, consumer rights and responsibilities, consumer behavior in making decisions, the impact of the marketplace on problem solving and implementation strategies for working with diverse audiences.

Completion of the Consumer Affairs major and Consumer Services Management specialization prepares students to engage in a variety of careers such as: management of non-profit organizations, management of retail businesses, Extension, credit/financial counseling, human resources, marketing and sales.

### Student Learning Outcomes

- Students will apply the consumer decision-making process to improve consumer well-being.
- Students will demonstrate effective resource management skills.
- Students will integrate knowledge of policy and community resources to solve consumer issues.
- Students will increase knowledge, awareness, and understanding of individual and social differences in consumer behavior.

### Academic Requirements

A grade of "C" or better is required for all courses with a CA prefix. An 8-week full time internship is a requirement that is usually completed during the summer between the Junior and Senior year.

### Course Delivery Format

Students learn through lecture, laboratory, and hands-on learning experiences.

### Requirements for Consumer Affairs Major - Consumer Services Management Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3 and PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 or SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 103 - Mathematical Reasoning (COM) [SGR #5] Credits: 3 or MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- CA 150 - Introduction to Consumer Affairs Credits: 2
- CA 230 - Consumer Behavior Credits: 3
- CA 289 - Consumers in the Market Credits: 3
- CA 340 - Work Family Interface Credits: 3
- CA 345 - Foundations in Financial Management Credits: 3
- CA 360-360L - Quantitative Research Methods in Consumer Affairs and Lab Credits: 4
- CA 412 - Consumer Policy Analysis Credits: 2
- CA 430 - Consumer Decision Making Credits: 3

- CA 487 - Transition to the Professional World Credits: 2
- CA 494 - Internship (COM) Credits: 3
- CS 282 - Customer Service Credits: 3
- CS 377 - Professional Documents Credits: 1
- CS 381 - Professional Behavior at Work Credits: 3
- HDFS 241 - Family Relations Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3

### Consumer Resource Management Specialization Requirements

- CA 321 - Consumer Needs and Program Funding Credits: 3
- CA 442 - Family Resource Management Lab Credits: 3
- HMGT 355 - Events and Facilities Administration Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 62 Credit Hours |
| Electives** | 24 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

Consumer Affairs (B.S.) - Consumer Services Management Specialization

## Consumer Affairs (B.S.) - Family Financial Management Specialization

### Program Coordinator/Contact

Axton Betz-Hamilton, Program Leader
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5161

### Program Information

Students majoring in Consumer Affairs who pursue the Family Financial Management specialization are usually interested in financial markets, financial decision, economics, business concepts and working with individuals to develop personal financial management skills. Required courses for the Family Financial Management specialization focus on principles and practice of insurance planning, investment strategies, income tax planning, retirement preparation, and estate planning.

Completion of the Consumer Affairs major and Family Financial Management specialization prepares students to engage in a variety of careers such as: financial services, financial planning, credit/financial counseling, human resources, marketing and sales.

### Student Learning Outcomes

- Students will apply the consumer decision-making process to improve consumer well-being.
- Students will demonstrate effective resource management skills.
- Students will integrate knowledge of policy and community resources to solve consumer issues.
- Students will increase knowledge, awareness, and understanding of individual and social differences in consumer behavior.

### Academic Requirements

A grade of "C" or better is required for all courses with a CA prefix. An 8-week full time internship is a requirement that is usually completed during the summer between the Junior and Senior year. Students in the Financial Counseling and Planning Specialization cannot minor in Financial Counseling.

### Course Delivery Format

Students learn through lecture, discussion, and hands-on learning experiences. Case studies are utilized to assist students in applying family financial planning strategies to individualized financial situations.

### Requirements for Consumer Affairs Major - Family Financial Management Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3 and PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 or SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- CA 150 - Introduction to Consumer Affairs Credits: 2
- CA 230 - Consumer Behavior Credits: 3
- CA 289 - Consumers in the Market Credits: 3
- CA 340 - Work Family Interface Credits: 3
- CA 345 - Foundations in Financial Management Credits: 3
- CA 360-360L - Quantitative Research Methods in Consumer Affairs and Lab Credits: 4
- CA 412 - Consumer Policy Analysis Credits: 2
- CA 430 - Consumer Decision Making Credits: 3
- CA 487 - Transition to the Professional World Credits: 2
- CA 494 - Internship (COM) Credits: 3
- CS 282 - Customer Service Credits: 3
- CS 377 - Professional Documents Credits: 1
- CS 381 - Professional Behavior at Work Credits: 3
- HDFS 241 - Family Relations Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3

### Financial Counseling and Planning Specialization Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- CA 350 - Family Financial Management I Credits: 3
- CA 375 - Financial Counseling and Debt Management Credits: 3
- CA 450 - Family Financial Management II Credits: 3
- CA 460 - Financial Counseling Lab Credits: 3
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 65 Credit Hours |
| Electives** | 21 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Consumer Affairs (B.S.) - Family Financial Management Specialization

## Criminology (B.A./B.S.)

### Program Coordinator/Contact

Elizabeth Koob, Professional Advisor
School of Psychology, Sociology and Rural Studies
Hansen Hall 102
605-688-6296

### Program Information

Criminology is the study of crime as a complex and multi-layered social phenomenon including its causes and consequences. Criminologists explore criminal behavior and societies' responses to crime. Without a clear understanding of why people commit crime, society cannot effectively rehabilitate criminals. The theoretical aspects of criminology encompass the research design and philosophy of science components of evidence-based science. The program focuses on the scientific research and evaluation processes that generate evidence to support improved practice in the field, to address the underlying methodological and structural components of crime and criminality, and to bolster criminal justice processes. The Criminology major will prepare students interested in a variety of careers related to crime and the control of crime as well as others more focused on the study of criminality.

### Student Learning Outcomes

In the Criminology major, students will:

- Identify structural patterns of social inequality and their effects on groups and individuals and explain the intersections of race, social class, gender, and other social factors as they relate to the development of criminal behavior, the criminal justice system, and values of social justice.
- Explain how criminal justice structures change as a result of social forces including: the actions of social groups through social movements and collective action; the impact of macro-level changes such as industrialization, secularization, and globalization; and struggles over social institutions that are linked to social and economic development and mobility.
- Demonstrate how to apply sociological and criminology theories and concepts to the social world around them by using the sociological imagination to analyze criminal acts in context and to generate and evaluate solutions; and by applying other criminology theories and concepts to understand how crime evolves and is controlled, both locally and globally.
- Describe the role of theory in building criminological knowledge and evaluate the limitations of different theoretical frameworks and critically evaluate claims about criminology and criminal justice systems by identifying and appraising assumptions underlying theory construction and social policy.
- Demonstrate the ability to conduct and critique empirical research in criminology through the articulation of the effective use of evidence, the generation of research questions or hypotheses from criminological theories and concepts, and the recognition of the limits of the scientific method in understanding social behavior related to crime.
- Demonstrate informational, technological, and quantitative literacy and be able to express criminological and criminal justice-related ideas in a clear and coherent manner, in both written and oral communication, to the general public.

### Academic Requirements

Students must earn a "C" or better in courses in the major and maintain at least a 2.20 cumulative GPA. Students pursuing the Criminology major are not eligible for the Criminal Justice minor.

### Course Delivery Format

Courses are delivered in multiple formats including face-to-face lecture and laboratory courses, as well as online courses.

### Requirements for Criminology Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- SGR #1 Electives Credits: 6
- SGR #2 Elective Credits: 3
- SGR #3 Electives Credits: 6
- SGR #4 Electives Credits: 6
- SGR #5 Elective Credits: 3
- SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- CJUS 201 - Introduction to Criminal Justice (COM) [SGR #3] Credits: 3
- CJUS 431 - Criminal Law (COM) Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- SOC 283 - Working with Diverse Populations Credits: 3
- SOC 307 - Research Methods I (COM) Credits: 3
- SOC 308 - Research Methods II (COM) Credits: 3
- SOC 351 - Criminology (COM) Credits: 3
- SOC 400-500 - Social Policy (COM) Credits: 3
- SOC 460 - Advanced Criminology (COM) Credits: 3

### Select from the following

Select twelve credits from the following list. Credits: 12

- CJUS 203 - Policing in a Free Society (COM) Credits: 3
- CJUS 334 - Criminal Investigation (COM) Credits: 3
- CJUS 338 - Constitutional Law: Civil Rights and Liberties Credits: 3
- CJUS 412 - Criminal Prosecution and Defense (COM) Credits: 3
- CJUS 416-516 - Drugs and Society Credits: 3
- CJUS 436 - Juvenile Justice (COM) Credits: 3
- SOC 325 - Domestic and Intimate Violence (COM) Credits: 3
- SOC 354 - Victimology (COM) Credits: 3
- SOC 382 - The Family (COM) Credits: 3
- SOC 402-502 - Social Deviance (COM) Credits: 3
- SOC 440-540 - Urban Sociology (COM) Credits: 3
- SOC 455-555 - Juvenile Delinquency (COM) Credits: 3
- SOC 456 - Community Corrections (COM) Credits: 3
- SOC 494 - Internship (COM) Credits: 1-12

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 39 Credit Hours |
| Electives** | 42 Credit Hours |

### Bachelor of Science

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 39 Credit Hours |
| Electives** | 45 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Criminology (B.A.)
- Criminology (B.S.)

## Dairy Manufacturing (B.S.)

### Program Coordinator/Contact

Joseph Cassady, Interim Department Head
Department of Dairy and Food Science
Alfred Dairy Science Hall 136
605-688-4116

### Program Information

Dairy Science is an application of the sciences, engineering and technology, and business toward the study of milk production and processing. The Dairy Manufacturing major focuses on processing of milk and milk products. The degree is designed to prepare students for a wide range of outstanding, challenging and rewarding career opportunities ranging from industry to private enterprise, government, research and higher education. Students will develop a knowledge base related to the basic physical, microbiological, chemical and engineering sciences as they are applied to dairy foods. These sciences are utilized to study the nature and development of dairy products; the unit operations involved in processing and production of quality dairy foods; the causes of deterioration and spoilage, and principles of dairy food preservation. Students will also be exposed to business operations management as it relates specifically to a dairy processing facility. These skill sets are also utilized by scientists to develop and create approaches for the generation of new dairy food products to assist in feeding the world through provision of products that provide proper nutrition with acceptable taste and texture while maintaining affordability. Graduates with a degree in Dairy Manufacturing are well prepared for professional positions within the dairy processing industry or for further graduate study in Dairy Science.

### Student Learning Outcomes

Upon completion of the Dairy Manufacturing curriculum a graduate should be able to demonstrate the following:

- Understanding of the chemistry underlying the properties and reactions of the various components within a dairy food as they are influenced by processing conditions.
- Practical proficiency in laboratory techniques associated with the determination of qualitative and quantitative analytical data related to physical, chemical, biological and microbiological aspects of dairy foods and dairy-based ingredients.
- Understanding of microbial growth and survival as it impacts the safety, preservation and spoilage of dairy food systems.
- Understanding of unit operations, process control and sanitation protocols as they relate to the production and preservation of dairy-based foods.
- Understanding of cleaning and sanitation processes and protocols as they impact the control and assurance of quality in the finished dairy food.
- Practical proficiency in application of Good Manufacturing Principles (GMP's), Standard Operating Procedures (SOP's), and Sanitation Standard Operating Procedures (SSOP's) as a direct result of exposure to these items in an applied manufacturing environment.
- Understanding of the laws and regulations governing the manufacture and sale of dairy-based food products.
- General understanding of business operations including finance, human resources, inventory management, infrastructure requirements, loss control and purchasing.
- Ability to utilize verbal and written communication skills effectively in a group environment.
- Ability to apply critical thinking and reasoning skills while ethically applying scientific principles to resolving issues associated with dairy food products and processing systems.

### Course Delivery Format

The program offers instruction through lecture, discussion, laboratory exercises and hands-on practical training.

### Requirements for Dairy Manufacturing Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 or ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3 and an additional non-ECON course SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5] Credits: 5
- Goal #6 Natural Sciences: BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 or BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
- MICR 311-311L - Food Microbiology and Lab Credits: 4
- Group 1 Courses in Agriculture Credits: 4

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3
- BIOL 103-103L - Biology Survey II and Lab (COM) [SGR #6] Credits: 3 or BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1
- DS 119 - First Year Seminar – Dairy and Food Science Credits: 2
- DS 202 - Dairy Products Judging Credits: 1
- DS 301-301L - Dairy Microbiology and Lab Credits: 4
- DS 321-321L - Dairy Product Processing I and Lab Credits: 5
- DS 322-322L - Dairy Product Processing II and Lab Credits: 5
- DS 400-400L/500-500L - Dairy Chemistry and Analysis and Lab Credits: 5
- DS 421-421L - Dairy Plant Management and Lab Credits: 4
- DS 490 - Seminar (COM) Credits: 1
- DS 494 - Internship (COM) Credits: 3-12 (3 credits required) or DS 498 - Undergraduate Research/Scholarship Credits: 1-6 (3 credits required)
- DS 496 - Field Experience Credits: 3-12 (3 credits required)
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4

or PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
or PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4

### Electives

- Business Electives (ACCT, AGEC, BADM, BLAW, ECON, ENTR, DSCI, FIN, HRM, MGMT, MKTG, or STAT) [excludes courses completed as a program requirement] Credits: 3
- FS Electives Credits: 3
- Other Electives Credits: 13-17

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 31-34 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 55-56 Credit Hours |
| Electives** | 19-23 Credit Hours |

*System General Education Requirements, Major Requirements, and supporting coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Dairy Manufacturing (B.S.)

## Dairy Manufacturing (B.S.) - Microbiology Specialization

### Program Coordinator/Contact

Joseph Cassady, Interim Department Head
Department of Dairy and Food Science
Alfred Dairy Science Hall 136
605-688-4116

### Program Information

Dairy Science is an application of the sciences, engineering and technology, and business toward the study of milk production and processing. The degree is designed to prepare students for a wide range of outstanding, challenging and rewarding career opportunities ranging from industry to private enterprise, government, research and higher education. The Dairy Manufacturing Major - Microbiology Specialization provides a strong biology, chemistry and microbiology focused curriculum for students with a strong interest in pursuing Microbiology related careers within the dairy industry. Students will develop a knowledge base related to the basic physical, biological, microbiological, chemical and engineering sciences, with special emphasis on microbiology, as they are applied to dairy foods. These sciences are utilized to study the nature and development of dairy products; the unit operations involved in processing and production of quality dairy foods; the causes of deterioration and spoilage, and principles of dairy food preservation. Students will also be exposed to business operations management as it relates specifically to a dairy processing facility. These skill sets are also utilized by scientists to develop and create approaches for the generation of new dairy food products to assist in feeding the world through provision of products that provide proper nutrition with acceptable taste and texture while maintaining affordability. Graduates with a degree in Dairy Manufacturing-Microbiology Specialization are well prepared for professional positions within the dairy processing industry or for further graduate study in Dairy Science.

### Student Learning Outcomes

Upon completion of the Dairy Manufacturing - Microbiology Specialization curriculum a graduate should be able to demonstrate the following:

- Understanding of the chemistry underlying the properties and reactions of the various components within a dairy food as they are influenced by processing conditions.
- Practical proficiency in laboratory techniques associated with the determination of qualitative and quantitative analytical data related to physical, chemical, biological and microbiological aspects of dairy foods and dairy-based ingredients.
- Understanding of microbial growth and survival as it impacts the safety, preservation and spoilage of dairy food systems.
- Understanding of unit operations, process control and sanitation protocols as they relate to the production and preservation of dairy-based foods.
- Understanding of cleaning and sanitation processes and protocols as they impact the control and assurance of quality in the finished dairy food.
- Practical proficiency in application of Good Manufacturing Principles (GMP's), Standard Operating Procedures (SOP's), and Sanitation Standard Operating Procedures (SSOP's) as a direct result of exposure to these items in an applied manufacturing environment.
- Understanding of the laws and regulations governing the manufacture and sale of dairy-based food products.
- General understanding of business operations including finance, human resources, inventory management, infrastructure requirements, loss control and purchasing.
- Ability to utilize verbal and written communication skills effectively in a group environment.
- Ability to apply critical thinking and reasoning skills while ethically applying scientific principles to resolving issues associated with dairy food products and processing systems.

### Course Delivery Format

The program offers instruction through lecture, discussion, laboratory exercises and hands-on practical training.

### Requirements for Dairy Manufacturing Major - Microbiology Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 or ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3 and an additional non-ECON course SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5] Credits: 5
- Goal #6 Natural Sciences: CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11 **

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

** Students in the Dairy Manufacturing - Microbiology Specialization need to only complete 7 of the 11 required Group 1 Electives to meet College of Agriculture, Food and Environmental Sciences requirements.

- DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
- MICR 311-311L - Food Microbiology and Lab Credits: 4

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3
- BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 or BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 (preferred)
- BIOL 103-103L - Biology Survey II and Lab (COM) [SGR #6] Credits: 3

or BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4 (preferred)

- BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1
- BIOL 204-204L - Introduction to Cell Biology and Lab (COM) Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1
- DS 119 - First Year Seminar – Dairy and Food Science Credits: 2
- DS 202 - Dairy Products Judging Credits: 1
- DS 301-301L - Dairy Microbiology and Lab Credits: 4
- DS 321-321L - Dairy Product Processing I and Lab Credits: 5
- DS 322-322L - Dairy Product Processing II and Lab Credits: 5
- DS 400-400L/500-500L - Dairy Chemistry and Analysis and Lab Credits: 5
- DS 421-421L - Dairy Plant Management and Lab Credits: 4
- DS 490 - Seminar (COM) Credits: 1
- DS 496 - Field Experience Credits: 3-12 (3 credits required)
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- MICR 310-310L - Environmental Microbiology and Lab Credits: 4
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MICR 448-548 - Molecular and Microbial Genetics Credits: 4
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32-34 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 7 Credit Hours |
| Major Requirements | 81-83 Credit Hours |
| Electives** | 0 Credit Hours |

*System General Education Requirements, Major Requirements, and supporting coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Dairy Manufacturing (B.S.) - Microbiology Specialization

## Dairy Production (B.S.)

### Program Coordinator/Contact

Joseph Cassady, Interim Department Head
Department of Dairy and Food Science
Alfred Dairy Science Hall 136
605-688-4116

### Program Information

Dairy Science is an application of the sciences, engineering and technology, and business toward the study of milk production and processing. The Dairy Production major focuses on the study of milk production, dairy farm operation management, nutrition and feeding, genetics and breeding, herd health and business management. The degree is designed to prepare students for a wide range of outstanding, challenging and rewarding career opportunities ranging from industry to private enterprise, government, research and higher education. Students will develop a knowledge base related to the basic biological, physical, microbiological, and chemical sciences. These sciences are utilized to study the animal health, genetics, physiology, and nutritional requirements of lactating animals. Students will also be exposed to business operations management as it relates specifically to a dairy farm operations. Graduates with a degree in Dairy Production are well prepared for professional positions within the dairy industry or for further graduate study in Dairy Science.

### Student Learning Outcomes

Upon completion of the Dairy Production curriculum a graduate should be able to demonstrate the following:

- Understanding of the chemistry and physiology underlying the nutritional requirements of lactating animals, specifically dairy cattle.
- Functional and practical approach to maintaining herd health based on a thorough understanding of animal diseases and their causes.
- Functional and practical approach to breeding dairy cattle and confirming pregnancy to enable initiation of milk production.
- Applied genetics related to breeding and herd management.
- Microbial growth and survival as it impacts the safety and spoilage of milk.
- Development of the ruminal microbial environment and impacts on nutrient requirements, milk composition and milk quality.
- Understanding of cleaning and sanitation processes and protocols impacting milk quality.
- Understanding of dairy farm management and operations principles including finance, human resources, environmental controls, nutrient management, business costs and profitability.
- Ability to utilize verbal and written communication skills effectively in a group or individual environment.
- Ability to utilize critical thinking and reasoning skills while ethically applying scientific principles toward resolving issues associated with the growth, care and feeding, and harvesting of milk from lactating animals.

### Course Delivery Format

The program offers in depth instruction and training through lectures, discussions, laboratory exercises and hands-on practical application and training.

### Requirements for Dairy Production Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 or ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3 and an additional non-ECON course SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5] Credits: 5
- Goal #6 Natural Sciences: CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 or BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- AGEC 271 - Farm and Ranch Management Credits: 3
- AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3
- DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
- PS 103-103L - Crop Production and Lab Credits: 2, 1

### Major Requirements

- AS 219 - Principles of Animal Nutrition Credits: 3
- AS 333-333L - Livestock Reproduction and Lab Credits: 3
- AS/ AST 463-563 - Agricultural Waste Management Credits: 3
- BIOL 103-103L - Biology Survey II and Lab (COM) [SGR #6] Credits: 3 or BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- BIOL 371 - Genetics (COM) Credits: 3

or AS 332 - Livestock Breeding and Genetics Credits: 4

- CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1
- DS 119 - First Year Seminar – Dairy and Food Science Credits: 2
- DS 202 - Dairy Products Judging Credits: 1
- DS 301-301L - Dairy Microbiology and Lab Credits: 4
- DS 311 - Dairy Cattle Judging Credits: 2
- DS 312-312L - Dairy Cattle Breeding and Evaluation and Lab Credits: 4
- DS 413-413L/513-513L - Physiology of Lactation and Lab Credits: 4
- DS 480-480L/580-580L - Dairy Farm Operations I and Lab Credits: 4
- DS 481-481L/581-581L - Dairy Farm Operations II and Lab Credits: 4
- DS 490 - Seminar (COM) Credits: 1
- DS 494 - Internship (COM) Credits: 3-12 (3 credits required)
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4
  or PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
  or PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
  or PS 313 - Forage Crop and Pasture Management Credits: 3
- VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4
- VET 403 - Animal Diseases and Their Control Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 31-34 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 67-69 Credit Hours |
| Electives** | 5-10 Credit Hours |

*System General Education Requirements, Major Requirements, and supporting coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Dairy Production (B.S.)

## Data Science (A.S.)

### Program Coordinator/Contact

Kurt Cogswell, Department Head
Department of Mathematics and Statistics
Chicoine Architecture, Mathematics and Engineering Hall 209
605-688-6196

### Program Information

The Data Science major prepares students to use the power of data to help organizations of all sorts and society as a whole to make better decisions. Students learn to use mathematics, statistics, and computational tools to analyze data, and learn to communicate the results of their analysis in order to produce the greatest positive impact. Completion of Option 1 of the Data Science major will allow students to transfer 60 credits of coursework towards many bachelor's degree programs in the applied, social, or natural sciences that can be enhanced by additional data science focus. Completion of Option 2 of the Data Science major will allow students to transfer 60 credits of coursework towards B.S. in Data Science or the B.S. in Mathematics with Data Science Specialization.

### Student Learning Outcomes

Upon completion of the Data Science major, students should be able to:

- Identify, gather, and prepare data necessary for analysis.
- Conduct data analysis using appropriate software to produce well understood and reproducible results.
- Avoid common analytical and ethical problems associated with data analysis.
- Interpret and communicate results of analysis to stakeholders, using written, visual, and verbal means.
- Work as part of a team to solve a data analysis problem.
- Appreciate the value of and work efficiently with a diverse group of individuals.

### Academic Requirements

A grade of "C" or above is required in all MATH and STAT courses.

### Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

### Requirements for Data Science Major: 60 Credits

*Associate of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Elective Credits: 3
- Goal #5 Mathematics: MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5 (Option 1) or MATH 123 - Calculus I (COM) [SGR #5] Credits: 4 (Option 2)
- Goal #6 Natural Sciences: INFO 101 - Introduction to Informatics [SGR #6] Credits: 3

### Major Requirements

- MATH 250 - Introduction to Linear Algebra and Proof Credits: 3
- STAT 101 - Introduction to Data Science Credits: 3
- STAT 410-510 - SAS Programming Credits: 3
- STAT 415-515 - R Programming Credits: 3

### Select one of the following

### Option 1

- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
  or STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
- STAT 441-541 - Statistical Methods II Credits: 3
- STAT 442 - Exploratory and Cloud-Based Data Analysis Credits: 3

### Option 2

- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- STAT 382 - Probability Credits: 3
- STAT 482 - Mathematical Statistics Credits: 3

### Supporting Coursework

- CSC 150 - Computer Science I (COM) Credits: 3

### Electives

Taken as needed to complete any additional requirements.

### Total Required Credits: 60

### Summary of Program Requirements

**Associate of Science**

| | |
|---|---|
| System General Education Requirements | 25-26 Credit Hours |
| Major Requirements | 24-25 Credit Hours |
| Supporting Coursework | 3 Credit Hours |
| Electives** | 10 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Data Science (A.S.)

## Data Science (B.S.)

### Program Coordinator/Contact

Kurt Cogswell, Department Head
Department of Mathematics and Statistics
Chicoine Architecture, Mathematics and Engineering Hall 209
605-688-6196

### Program Information

The Data Science major prepares students to use the power of data to help organizations of all sorts and society as a whole to make better decisions. Students learn to use mathematics, statistics, and computational tools to analyze data of all sorts, and learn to communicate the results of their analysis in order to produce the greatest positive impact. Graduates are prepared for any post-graduation outcome including immediate entry into the professional world or further study in a pursuit of a M.S. in Data Science.

### Student Learning Outcomes

Upon completion of the Data Science major, students should be able to:

- Apply concepts and methods from Calculus and Linear Algebra.
- Work as part of a team to solve a complex Data Science problem.
- Gather requirements from professional contexts and translate them into a clearly articulated data analysis problem.
- Identify, gather, and prepare data necessary for analysis.
- Select the optimal combination of mathematical, statistical, and computing techniques necessary to solve a problem.
- Conduct analysis in a manner that produces well-understood and reproducible results and avoids common analytical and ethical problems associated with data analysis.
- Interpret and communicate results in the optimal combination of written, graphical/visual, and verbal means, to provide actionable intelligence to the stakeholder.
- Appreciate the value of and work efficiently with a diverse group of individuals.

### Academic Requirements

A grade of "C" or above is required in all MATH and STAT courses.

### Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

### Requirements for Data Science Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: INFO 101 - Introduction to Informatics [SGR #6] Credits: 3 and PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4 or PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4 or CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 or BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4

### Major Requirements

- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 198 - The Mathematics Profession (COM) Credits: 1
- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
- MATH 230 - Sophomore Seminar Credits: 1
- MATH 250 - Introduction to Linear Algebra and Proof Credits: 3
- MATH 253 - Logic, Sets, and Proof Credits: 4
- MATH 401 - Senior Capstone Credits: 1-2 (2 credits required)
- STAT 382 - Probability Credits: 3
- STAT 482 - Mathematical Statistics Credits: 3

### Select from the following

Select twenty-four credits from the following. Credits: 24

- CSC 250 - Computer Science II (COM) Credits: 3
- CSC 300 - Data Structures (COM) Credits: 3
- CSC 319 - Parallel Computing (COM) Credits: 3
- MATH 316 - Discrete Mathematics (COM) Credits: 3
- MATH 374 - Scientific Computation I Credits: 3
- MATH 475-575 - Operations Research (COM) Credits: 3
- STAT 101 - Introduction to Data Science Credits: 3
- STAT 383 - Geospatial Data Analysis Credits: 3
- STAT 410-510 - SAS Programming Credits: 3
- STAT 415-515 - R Programming Credits: 3
- STAT 441-541 - Statistical Methods II Credits: 3
- STAT 442 - Exploratory and Cloud-Based Data Analysis Credits: 3
- STAT 445-545 - Nonparametric Statistics (COM) Credits: 3
- STAT 451-551 - Predictive Analytics I Credits: 3
- STAT 453-553 - Applied Bayesian Statistics Credits: 3
- STAT 460-560 - Time Series Analysis (COM) Credits: 3

### Supporting Coursework

- CSC 150 - Computer Science I (COM) Credits: 3

### Electives

Taken as needed to complete any additional requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| Major Requirements | 50 Credit Hours |
| Supporting Coursework | 3 Credit Hours |
| Electives** | 38 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Data Science (B.S.)

## Early Childhood Education (B.S.) - Birth to 8 Specialization

### Program Coordinator/Contact

Mary Bowne, Professor/ECE Coordinator
School of Education, Counseling and Human Development
Pugsley Hall 139
605-688-5989

### Program Information

This program prepares professionals who work in educational settings with children in order to promote their cognitive, physical, emotional, and social development. Program content includes the theory and practice of working with children and their families and communities. In addition to being prepared to work in early childhood settings such as Head Start, preschools, and child care centers, those who successfully complete this specialization meet the requirements for a South Dakota Birth to age 8 Early Childhood teaching certificate which enables them to teach grades K-3. Complete two student teaching experiences, one in a Pre-K or Kindergarten classroom and another in a first, second, or third grade classroom.

### Student Learning Outcomes

Early Childhood Education follows student learning outcomes as outlined by the National Association for the Education of Young Children (NAEYC).

Standard 1. Promoting child development and learning
1a: Knowing and understanding young children's characteristics and needs, from birth through Age 8.
1b: Knowing and understanding the multiple influences on early development and

learning.
1c: Using developmental knowledge to create healthy, respectful, supportive, and challenging learning environments for young children.

Standard 2. Building family and community relationships
2a: Knowing about and understanding diverse family and community characteristics.
2b: Supporting and engaging families and communities through respectful, reciprocal relationships.
2c: Involving families and communities in young children's development and learning.

Standard 3. Observing, documenting, and assessing to support young children and families
3a: Understanding the goals, benefits, and uses of assessment – including its use in development of appropriate goals, curriculum, and teaching strategies for young children.
3b: Knowing about assessment partnerships with families and with professional colleagues to build effective learning environments.
3c: Knowing about and using observation, documentation, and other appropriate assessment tools and approaches, including the use of technology in documentation, assessment and data collection.
3d: Understanding and practicing responsible assessment to promote positive outcomes for each child, including the use of assistive technology for children with disabilities.

Standard 4. Using developmentally effective approaches
4a: Understanding positive relationships and supportive interactions as the foundation of their work with young children.
4b: Knowing and understanding effective strategies and tools for early education, including appropriate uses of technology.
4c: Using a broad repertoire of developmentally appropriate teaching /learning approaches.
4d: Reflecting on own practice to promote positive outcomes for each child.

Standard 5. Using content knowledge to build meaningful curriculum
5a: Understanding content knowledge and resources in academic disciplines: language and literacy; the arts – music, creative movement, dance, drama, visual arts; mathematics; science, physical activity, physical education, health and safety; and social studies.
5b: Knowing and using the central concepts, inquiry tools, and structures of content areas or academic disciplines.
5c: Using own knowledge, appropriate early learning standards, and other resources to design, implement, and evaluate developmentally meaningful and challenging curriculum for each child.

Standard 6. Becoming a professional
6a: Identifying and involving oneself with the early childhood field.
6b: Knowing about and upholding ethical standards and other early childhood professional guidelines.
6c: Engaging in continuous, collaborative learning to inform practice; using technology effectively with young children, with peers, and as a professional resource.
6d: Integrating knowledgeable, reflective, and critical perspectives on early education.
6e: Engaging in informed advocacy for young children and the early childhood profession.

Standard 7. Early childhood field experiences
7a. Opportunities to observe and practice in at least two of the three early childhood age groups (birth – age 3, 3-5, 5-8).
7b. Opportunities to observe and practice in at least two of the three main types of early education settings (early school grades, child care centers and homes, Head Start programs).

### Academic Requirements

- Entry into the major academic courses in all ECE program tracks include passing scores in Praxis I: Core Reading (140), Writing (150), and Math (132). Students will work their academic advisor for registering for the Praxis exams.
- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher, and all courses for the major (classes with school/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's Early Childhood Education Birth – Age 8 preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Courses in Early Childhood Education are delivered face to face, online and hybrid (face to face and online combination). All ECE courses have practical applications in field experience settings in childcare and Pre-K-Grade 3.

### Requirements for Early Childhood Education Major - Birth to 8 Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3 and PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: ENGL 240 - Juvenile Literature [SGR #4] Credits: 3 or SGR #4 Modern Language Elective and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: MATH 103 - Mathematical Reasoning (COM) [SGR #5] Credits: 3 or higher level SGR #5 course
- Goal #6 Natural Sciences: GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4 or GEOG 132-132L - Physical Geography: Natural Landscapes and Lab (COM) [SGR #6] Credits: 4 and BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 Credits: 7

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- ECE 150-150L - Early Experience and Lab Credits: 2
- ECE 196 - Field Experience (COM) Credits: 1
- ECE 240 - Child Development I: Prenatal to 2 Credits: 3
- ECE 241 - Child Development II: 3 to 8 Years Credits: 3
- ECE 320-320L - Pedagogy and Curriculum and Lab Credits: 3, 1
- ECE 321 - Learner Centered Assessment Credits: 3
- ECE 322 - Contemporary Curriculum Perspectives Credits: 3
- ECE 325 - Inclusion and the Diverse Learner Credits: 3
- ECE 360-360L - Play and Inquiry and Lab Credits: 3, 1
- ECE 412 - Kindergarten Education (COM) Credits: 2-3 (2 credits required)
- ECE 441 - Professional Issues in ECE Credits: 2
- ECE 455 - Administration and Supervision of Early Childhood Setting Credits: 3
- ECE 470 - Early Childhood Inclusion Strategies Credits: 3
- ECE 471 - Reading Diagnostics Credits: 3
- ECE 475 - Pedagogy and Guidance in ECE Credits: 3
- ECE 488 - Student Teaching (COM) Credits: 1-12 (6 credits required Pre-K and 8 credits required K-3)
- ECE 495 - Practicum (COM) Credits: 1-12 (4 credits required)

### Supporting Coursework

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- ECE 466 - Literacy in ECE Credits: 3
- EDFN 475 - Human Relations (COM) Credits: 3

- EPSY 201 - The Science of Learning Credits: 3
- HDFS 241 - Family Relations Credits: 3
- MATH 245 - Mathematics for Primary Grades I Credits: 3
- MATH 345 - Mathematics for Primary Grades II Credits: 3
- PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4
  or CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1
  or PHYS 185-185L - Solar System Astronomy and Lab (COM) [SGR #6] Credits: 3
  or PHYS 216-216L - Physical Science for Early Childhood and Lab Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Notes

- Entry into the major academic courses in all ECE program tracks include passing scores in Praxis I: Core Reading (140), Writing (150), and Math (132). Students will work their academic advisor for registering for the Praxis exams.
- A pre-graduate check is required 2 semesters before graduation semester. At beginning of graduation semester, a graduation application must be completed.
- A grade of "C" or better is required in PSYC 101, ENGL 101, CMST 101, MATH 103, and all major courses with an EDFN, HDFS or ECE prefix.
- Students must meet all GPA Requirements (2.6 for graduation, 2.8 in major courses including ECE, HDFS, and EDFN) and be accepted into the ECE Teacher Education program/ECE-PSI and ECE-PS II.
- Students will be required to pass the PRAXIS content and Principles of Teaching and Learning exams in order to be considered a Highly Qualified Teacher.

### Summary of Program Requirements

#### Bachelor of Science

| | |
|---|---|
| System General Education Requirements | 31 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 60 Credit Hours |
| Supporting Coursework | 24-25 Credit Hours |
| Electives** | 0-1 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Early Childhood Education (B.S.) - Birth to 8 Specialization

## Early Childhood Education (B.S.) - Cooperative Elementary Education Program with DSU

### Program Coordinator/Contact

Mary Bowne, Professor/ECE Coordinator
School of Education, Counseling and Human Development
Pugsley Hall 139
605-688-5989

### Program Information

The Early Childhood Education - Cooperative Elementary Education program with Dakota State University (DSU) is for students who are interested in teaching certification for early childhood elementary and middle school grades in the public school system in South Dakota. The program prepares professionals who work in educational settings with children in order to promote their cognitive, physical, emotional, and social development. Program content includes the theory and practice of working with children and their families and communities. The courses specific to elementary education are offered by DSU faculty on the SDSU campus. Students complete two student teaching experiences. One at a pre-K or Kindergarten setting and another at a selected elementary or middle school. It typically takes five years to complete the cooperative program.

### Student Learning Outcomes

Early Childhood Education follows student learning outcomes as outlined by the National Association for the Education of Young Children (NAEYC).

Standard 1. Promoting child development and learning
1a: Knowing and understanding young children's characteristics and needs, from birth through Age 8.
1b: Knowing and understanding the multiple influences on early development and learning.
1c: Using developmental knowledge to create healthy, respectful, supportive, and challenging learning environments for young children.

Standard 2. Building family and community relationships
2a: Knowing about and understanding diverse family and community characteristics.
2b: Supporting and engaging families and communities through respectful, reciprocal relationships.
2c: Involving families and communities in young children's development and learning.

Standard 3. Observing, documenting, and assessing to support young children and families
3a: Understanding the goals, benefits, and uses of assessment – including its use in development of appropriate goals, curriculum, and teaching strategies for young children.
3b: Knowing about assessment partnerships with families and with professional colleagues to build effective learning environments.
3c: Knowing about and using observation, documentation, and other appropriate assessment tools and approaches, including the use of technology in documentation, assessment and data collection.
3d: Understanding and practicing responsible assessment to promote positive outcomes for each child, including the use of assistive technology for children with disabilities.

Standard 4. Using developmentally effective approaches
4a: Understanding positive relationships and supportive interactions as the foundation of their work with young children.
4b: Knowing and understanding effective strategies and tools for early education, including appropriate uses of technology.
4c: Using a broad repertoire of developmentally appropriate teaching /learning approaches.
4d: Reflecting on own practice to promote positive outcomes for each child.

Standard 5. Using content knowledge to build meaningful curriculum
5a: Understanding content knowledge and resources in academic disciplines: language and literacy; the arts – music, creative movement, dance, drama, visual arts; mathematics; science, physical activity, physical education, health and safety; and social studies.
5b: Knowing and using the central concepts, inquiry tools, and structures of content areas or academic disciplines.
5c: Using own knowledge, appropriate early learning standards, and other resources to design, implement, and evaluate developmentally meaningful and challenging curriculum for each child.

Standard 6. Becoming a professional
6a: Identifying and involving oneself with the early childhood field.
6b: Knowing about and upholding ethical standards and other early childhood professional guidelines.
6c: Engaging in continuous, collaborative learning to inform practice; using technology effectively with young children, with peers, and as a professional resource.
6d: Integrating knowledgeable, reflective, and critical perspectives on early education.
6e: Engaging in informed advocacy for young children and the early childhood profession.

Standard 7. Early childhood field experiences
7a. Opportunities to observe and practice in at least two of the three early childhood age groups (birth – age 3, 3-5, 5-8).
7b. Opportunities to observe and practice in at least two of the three main types of early education settings (early school grades, child care centers and homes, Head Start programs).

### Academic Requirements

- Entry into the major academic courses in all ECE program tracks include passing scores in Praxis I: Core Reading (140), Writing (150), and Math (132). Students will work their academic advisor for registering for the Praxis exams.
- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher, and all courses for the major (classes with school/program prefix).

- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure for South Dakota

- Complete an approved bachelor's Early Childhood Education Cooperative Elementary Education preparation program.
- Complete an approved Indian Studies course.
- Pass the state designated content knowledge test.
- Pass the state designated pedagogy test.
- Complete a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Receive a written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Courses in Early Childhood Education are delivered face to face, online and hybrid (face to face and online combination). All ECE courses have practical applications in field experience settings in childcare and Pre-K-Grade 3.

### Requirements for Early Childhood Education Major - Cooperative Elementary Education with DSU: 141 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3 and PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: ART 121 - Design I 2D (COM) [SGR #4] Credits: 3 and ENGL 240 - Juvenile Literature [SGR #4] Credits: 3
- Goal #5 Mathematics: MATH 103 - Mathematical Reasoning (COM) [SGR #5] Credits: 3 or higher level SGR #5 course
- Goal #6 Natural Sciences: GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4 or GEOG 132-132L - Physical Geography: Natural Landscapes and Lab (COM) [SGR #6] Credits: 4 and BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- ECE 150-150L - Early Experience and Lab Credits: 2
- ECE 196 - Field Experience (COM) Credits: 1
- ECE 240 - Child Development I: Prenatal to 2 Credits: 3
- ECE 241 - Child Development II: 3 to 8 Years Credits: 3
- ECE 320-320L - Pedagogy and Curriculum and Lab Credits: 3, 1
- ECE 360-360L - Play and Inquiry and Lab Credits: 3, 1
- ECE 441 - Professional Issues in ECE Credits: 2
- ECE 455 - Administration and Supervision of Early Childhood Setting Credits: 3
- ECE 488 - Student Teaching (COM) Credits: 1-12 (6 credits required) (Pre-K)

### Cooperative ELED Certification Requirements

- EDFN 300 - Survey of Middle Level Education (SU) Credits: 1
- EDFN 440 - Classroom Management (S-II) Credits: 2
- ELED 303 - Earth and Physical Science for Elementary Teachers/Lab (SU) Credits: 4
- ELED 320 - K-8 Science Methods (F) Credits: 3
- ELED 330 - K-8 Math Methods (F) Credits: 3
- ELED 360 - K-8 Social Studies Methods (F) Credits: 2
- ELED 395 - Practicum (S-I) Credits: 1
- ELED 440 - K-8 Language Arts Methods (S-I) Credits: 2
- ELED 456 - 4-8 Reading Methods Credits: 3
- ELED 459 - Introduction to Literacy Assessment and Remediation Credits: 3
- ECE 466 - Literacy in ECE Credits: 3
- ELED 488 - K-8 Student Teaching (COM) Credits: 2-16 (8 credits required)
- ELED 495 - Practicum (F) Credits: 1
- SPED 441 - Inclusive Methods for Diverse Learners (S-I) Credits: 2

### Supporting Coursework

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- EDER 415 - Educational Assessment (COM) Credits: 2
- EDFN 338 - Foundations of American Education (COM) Credits: 1-2 (2 credits required)
- EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
- EDFN 475 - Human Relations (COM) Credits: 3
- ELED 361 - Social Sciences for Teachers Credits: 2
- EPSY 302 - Educational Psychology (COM) Credits: 3
- GEOG 210 - World Regional Geography (COM) [SGR #3] Credits: 3
  or HIST 151 - United States History I (COM) [SGR #3] Credits: 3
  or HIST 152 - United States History II (COM) [SGR #3] Credits: 3
  or POLS 100 - American Government (COM) [SGR #3] Credits: 3
- HDFS 241 - Family Relations Credits: 3
- HLTH 420-520 - K-12 Methods of Health Instruction (COM) Credits: 2
- MATH 341 - Math Concepts for Teachers I Credits: 3
- MATH 342 - Math Concepts for Teachers II Credits: 3
- MUS 351 - Elementary School Music Methods (COM) Credits: 2-3 (2 credits required)
- PE 360-360L - K-8 Physical Education Methods and Lab (COM) Credits: 2
- SPED 100 - Introduction to Persons with Exceptionalities Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 141

### Notes

- A pre-graduate check is required 2 semesters before graduation semester. At beginning of graduation semester, a graduation application must be completed.
- A grade of "C" or better is required in PSYC 101, ENGL 101, CMST 101, MATH 103, and all major courses with an EDFN, HDFS or ECE prefix.
- Students must meet all GPA Requirements (2.6 for graduation, 2.8 in major courses including ECE, HDFS, and EDFN) and be accepted into the ECE Teacher Education program/ECE-PSI and ECE-PS II.
- Students will be required to pass the PRAXIS content and Principles of Teaching and Learning exams in order to be considered a Highly Qualified Teacher and be certified in the state of South Dakota
- The rotation of the cooperative ELED certification courses is indicated as follows: S-I (Spring I), F (Fall), SU (Summer) and S-II (Spring II).
- Students are required to complete 94 credits of SDSU coursework. These courses, with SDSU electives, do not constitute a degree program. Instead, students complete an additional 47 credits from the cooperating university (DSU) to fully meet the requirements for the ECE Cooperative Elementary Education Program with DSU.
- All courses are required for certification. Upon graduation, students would be eligible for dual certification in early childhood education and elementary education (K - Grade 8).

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 31 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 28 Credit Hours |
| Supporting Coursework | 38 Credit Hours |
| Cooperative ELED Certification Requirements | 38 Credit Hours |
| Electives** | 2 Credit Hour |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course

sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Early Childhood Education (B.S.) - Cooperative Elementary Education Program with DSU

## Early Education & Care (B.S.)

### Program Coordinator/Contact

Melissa Ochsner, Academic Advisor
School of Education, Counseling and Human Development
Wagner Hall 239
605-688-4015

### Program Information

The Early Education and Care (EEC) is an online undergraduate program provided by seven universities working in collaboration. This program will prepare you to work in early childhood settings with young children, especially those whose family members are highly mobile. When students complete the program they will be qualified to work in a variety of programs that offer early care and education in the community and on military installations. Some of these programs are:

- Childcare centers and homes
- Infant/toddler and preschool programs
- Head Start programs
- Before and after-school programs for children ages birth to eight

### Student Learning Outcomes

- Students use their understanding of young children's characteristics and needs, and of multiple interacting influences on children's development and learning, to create environments that are healthy, respectful, supportive, and challenging for each child.
- Students know about, understand, and value the importance and complex characteristics of children's families and communities. They use this understanding to create respectful, reciprocal relationships that support and empower families, and to involve all families in their children's development and learning.
- Students know about and understand the goals, benefits, and uses of assessment. They know about and use systematic observations, documentation, and other effective assessment strategies in a responsible way, in partnership with families and other professionals, to positively influence the development of every child.
- Students understand that teaching and learning with young children is a complex enterprise and its details vary depending on children's ages, characteristics, and the settings within which teaching, and learning occur. They understand and use positive relationships and supportive interactions as the foundation for their work with young children and families. Candidates know, understand, and use a wide array of developmentally appropriate approaches, instructional strategies, and tools to connect with children and families and positively influence each child's development and learning.
- Students use their knowledge of academic disciplines to design, implement, and evaluate experiences that promote positive development and learning for each and every young child. Candidates understand the importance of developmental domains and academic (or content) disciplines in early childhood curriculum. They know the essential concepts, inquiry tools, and structure of content areas, including academic subjects, and can identify resources to deepen their understanding. Candidates use their own knowledge and other resources to design, implement, and evaluate meaningful, challenging curriculum that promotes comprehensive developmental and learning outcomes for every young child.
- Students identify and conduct themselves as members of the early childhood profession. They know and use ethical guidelines and other professional standards related to early childhood practice. They are continuous, collaborative learners who demonstrate knowledgeable, reflective, and critical perspectives on their work, making informed decisions that integrate knowledge from a variety of sources. They are informed advocates for sound educational practices and policies.
- Students develop the knowledge, skills and professional dispositions necessary to promote the development and learning of young children across the entire developmental period of early childhood—in at least two of the three early childhood age groups (birth -- age 3, 3 through 5, 5 through 8 years) and in the variety of settings that offer early education (early school grades, child care centers and homes, Head Start programs).

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

### Course Delivery Format

Program courses are taught online through the Great Plains IDEA program, a collaborative, multi-institutional consortium.

### Requirements for Early Education and Care Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3 and PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- ECE 150-150L - Early Experience and Lab Credits: 2
- ECE 220 - Health, Safety and Nutrition of Young Children Credits: 2-3 (3 credits required)
- EEC 330 - Child Development - Birth to 3 Credits: 3
- EEC 331 - Child Development - 4 to 8 Credits: 3
- EEC 332 - Child Guidance and Classroom Environments Credits: 3
- EEC 333 - Professional Development for Early Childhood Education Providers Credits: 3
- EEC 334 - Diversity in the Lives of Young Children and Families Credits: 3
- EEC 335 - Technology and Young Children Credits: 3
- EEC 336 - Working with Families Credits: 3
- EEC 337 - Practicum I - Child Observations in Classroom Environments Credits: 3
- EEC 430 - Development of Curriculum for Children Ages Birth to 3 Credits: 3
- EEC 431 - Development of Curriculum for Children Ages 4 to 8 Credits: 3
- EEC 432 - Administration and Supervision in Early Childhood Settings Credits: 3
- EEC 433 - Assessing Young Children to Enhance Development Credits: 3
- EEC 434 - Understanding and Adapting to Developmental Differences Credits: 3
- EEC 435 - Practicum II - Curriculum Development and Implementation Credits: 3
- EEC 436 - Practicum III - Capstone Experience Credits: 6
- EPSY 201 - The Science of Learning Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 53 Credit Hours |
| Electives** | 30 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide

for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Early Education and Care (B.S.)

## Ecology & Environmental Science (B.S.)

### Program Coordinator/Contact

Alexander (Sandy) Smart, Assistant Department Head and Professor
Bruce Eichhorst, Instructor
Department of Natural Resource Management
Edgar S. McFadden Biostress Laboratory, Room 139C
605-688-6121

### Program Information

The Ecology and Environmental Science major includes a strong core in biological and physical sciences and a variety of elective courses that allow students to follow different career paths within the major. Most students enrolled in this major are planning careers with state and federal natural resource agencies, consulting firms and industry. Predefined emphases are available to support careers in ecological informatics and analysis, watershed management, ecology, analytical laboratory analysis and health. Students seek employment with state or federal environmental monitoring and regulatory agencies or private consulting firms immediately following graduation. Many go on to pursue graduate degrees in conservation, ecology and environmental science.

### Student Learning Outcomes

Upon completion of the Ecology and Environmental Science major, students will:

- Understand ecological and environmental principles required for management of natural resources for multiple-uses, including (but not limited to) wildlife habitat, water management, ecosystems services, recreation, and livestock production.
- Describe how natural resource management fits into the context of society and how societal factors (e.g., economics, policy, laws, regulations, attitudes, behaviors, norms) influence natural resource management.
- Lead and work with others as appropriate to successfully manage natural resources.
- Apply natural resource field and lab techniques and contemporary technologies to management of natural resources.
- Analyze and critically evaluate data and other information.
- Analyze and critically evaluate data and other information.
- Communicate (both written and orally) with both scientific and non-scientific audiences.
- Display professional and ethical behavior consistent with that expected in a natural resource management field.

### Academic Requirements

Students must achieve a grade of "C" or better in all major core courses.

### Accreditation, Certification, and Licensure

Ecology students within this program may gain certification through the Ecological Society of America upon completion of degree requirements. Curricula are designed so that upon completion, ecology students may become an Ecologist in Training through the Ecological Society of America.

### Course Delivery Format

Ecology and Environmental Science coursework is delivered on-campus in lecture, discussion, and laboratory settings, and off-campus in numerous field-based settings.

### Requirements for Ecology and Environmental Science Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5] Credits: 5 or MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5 or MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3 (Major Requirement)
- EES 275 - Introduction to Environmental Science Credits: 3 (Major Requirement)
- NRM 282-282L - Natural Resource Statistics and Lab Credits: 3 (Major Requirement)
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1 (Major Requirement)

### Major Requirements

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
  or BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3
  or NRM 200-200L - Animal Diversity and Lab Credits: 3
- BIOL/ PHIL 383 - Bioethics (COM) Credits: 4
  or PHIL 454 - Environmental Ethics (COM) Credits: 3
- CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1
  or CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- EES 275 - Introduction to Environmental Science Credits: 3
- EES 425-425L/525-525L - Disturbance and Restoration Ecology and Lab Credits: 3
- EES 491 - Independent Study (COM) Credits: 1-3 (1 credit required)
  or EES 494 - Internship (COM) Credits: 1-12 (1 credit required)
  or EES 496 - Field Experience (COM) Credits: 1-12 (1 credit required)
  or EES 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4 (1 credit required)
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- NRM 119 - Orientation to Natural Resource Management Credits: 2
- NRM 230 - Natural Resource Management Techniques Credits: 2
- NRM 276 - Scientific Communications Credits: 1
- NRM 282-282L - Natural Resource Statistics and Lab Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3
- NRM 464-564 - Ecosystem Ecology Credits: 3
- PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4
  or PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- PS 243 - Principles of Geology [SGR #6] Credits: 3

### Major Electives

Select a minimum of 25 credits from the following courses. Students should work with their advisor to select groupings of electives providing an "area of emphasis". +Course requires additional prerequisites or instructor consent. Credits: 25

- AST 353 - Physical Climatology and Meteorology Credits: 3
- BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1
- BIOL 373 - Evolution (COM) Credits: 3
- BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3
- BOT 301-301L - Plant Systematics (COM) Credits: 3
- BOT 327-327L - Plant Physiology and Lab Credits: 4
- BOT 405-405L/505-505L - Grasses and Grasslike Plants and Lab Credits: 3
- BOT 415-415L/515-515L - Aquatic Plants and Lab Credits: 3
- BOT 419-419L - Plant Ecology and Lab (COM) Credits: 3

- CEE 323 - Water Supply and Wastewater Engineering Credits: 3 +
- CEE 422-422L/522-522L - Environmental Engineering Instrumentation and Lab Credits: 3 +
- CEE 434-534 - Hydrology Credits: 3 +
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1 +
- CHEM 332-332L - Analytical Chemistry and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3 +
- CHEM 482 - Environmental Chemistry (COM) Credits: 3-4 +
- EES 430-430L/530-530L - Biological Invasions and Lab Credits: 3
- EES 491 - Independent Study (COM) Credits: 1-3
- EES 494 - Internship (COM) Credits: 1-12
- EES 496 - Field Experience (COM) Credits: 1-12
- EES 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4
- GEOG 473-473L/573-573L - GIS: Data Creation and Integration and Lab (COM) Credits: 3
- GEOG 474-474L/574-574L - GIS: Vector and Raster Modeling and Lab Credits: 3
- GEOG 475-475L/575-575L - GIS Applications and Lab Credits: 3
- GEOG 484-484L/584-584L - Remote Sensing and Lab (COM) Credits: 3
- HLTH 443 - Public Health Science Credits: 3
- HLTH 445 - Epidemiology Credits: 3
- LA 331 - Landscape Architecture Site Engineering Credits: 3
- LA 341 - Public and Social Place Design Credits: 3 +
- LA 352 - Planting and Ecological Design Credits: 4 +
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- MICR 310-310L - Environmental Microbiology and Lab Credits: 4 +
- MICR 421-421L/521-521L - Soil Microbiology and Lab Credits: 3
- NRM 200-200L - Animal Diversity and Lab Credits: 3
- NRM 350 - Conservation and Management of Endangered and Nongame Wildlife Credits: 3
- NRM 450-450L/550-550L - Freshwater Monitoring and Assessment and Lab Credits: 3
- NRM 466-566 - Environmental Toxicology and Contaminants (COM) Credits: 3
- NRM 482-482L/582-582L - Natural Resource Management Biometry Credits: 3
- PS 412-512 - Environmental Soil Chemistry Credits: 3
- PS 462-462L/562-562L - Environmental Soil Management and Lab Credits: 3
- RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4
- RANG 425-425L/525-525L - Rangeland Assessment and Monitoring Lab Credits: 3
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3 +
- STAT 414-514 - Basic R Programming Credits: 1 +
- STAT 441-541 - Statistical Methods II Credits: 3 +
- STAT 445-545 - Nonparametric Statistics (COM) Credits: 3 +
- WL 355-355L - Mammalogy and Lab (COM) Credits: 3
- WL 363-363L - Ornithology and Lab (COM) Credits: 4
- WL 367-367L - Ichthyology and Lab Credits: 3
- WL 417-417L/517-517L - Large Mammal Ecology and Management and Lab Credits: 3 +
- WL 418-418L/518-518L - Ecology of Aquatic Invertebrates and Lab Credits: 3
- WL 419-419L/519-519L - Waterfowl Ecology and Management and Lab Credits: 3
- WL 427-427L/527-527L - Limnology and Lab Credits: 3
- WL 434-434L - Herpetology and Lab (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32-34 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 82 Credit Hours |
| Electives** | 6 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Ecology and Environmental Science (B.S.)

## Ecology & Environmental Science (B.S.) - Rangeland Ecology & Management Specialization

### Program Coordinator/Contact

Alexander (Sandy) Smart, Assistant Department Head and Professor
Department of Natural Resource Management
Edgar S. McFadden Biostress Laboratory, Room 139C
605-688-6121

### Program Information

Rangeland Ecology and Management focuses on the scientific study of rangelands, arid regions and grasslands to achieve resource management for maximum benefit and environmental balance. Graduates are well prepared for careers in a variety of land management fields, as well as agency and private sector positions.

### Student Learning Outcomes

Upon completion of the Rangeland Ecology and Management specialization, students will:

- Understand ecological and environmental principles required for management of natural resources for multiple-uses, including (but not limited to) wildlife habitat, water management, ecosystems services, recreation, and livestock production.
- Describe how natural resource management fits into the context of society and how societal factors (e.g., economics, policy, laws, regulations, attitudes, behaviors, norms) influence natural resource management.
- Lead and work with others as appropriate to successfully manage natural resources.
- Apply natural resource field and lab techniques and contemporary technologies to management of natural resources.
- Analyze and critically evaluate data and other information.
- Analyze and critically evaluate data and other information.
- Communicate (both written and orally) with both scientific and non-scientific audiences.
- Display professional and ethical behavior consistent with that expected in a natural resource management field.

### Accreditation, Certification, and Licensure

The Rangeland Ecology and Management program is accredited by the Society for Range Management.

### Course Delivery Format

The Rangeland Ecology and Management program is on campus and engages students in experiential learning in lecture, laboratory, and field based settings.

### Requirements for Ecology and Environmental Science Major - Rangeland Ecology and Management Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3

- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3 or SOC 150 - Social Problems (COM) [SGR #3] Credits: 3 or SOC 240 - The Sociology of Rural America (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Elective Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3 or higher level SGR #5 course
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3 (Major Requirement)
- NRM 282-282L - Natural Resource Statistics and Lab Credits: 3 (Major Requirement)
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1 (Major Requirement)
- RANG 205 - Introduction to Range Management [SGR #6] Credits: 3 (Major Requirement)

### Major Requirements

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
  or BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3
  or NRM 200-200L - Animal Diversity and Lab Credits: 3
- CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1
  or CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- EES 425-425L/525-525L - Disturbance and Restoration Ecology and Lab Credits: 3
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- NRM 119 - Orientation to Natural Resource Management Credits: 2
- NRM 230 - Natural Resource Management Techniques Credits: 2
- NRM 276 - Scientific Communications Credits: 1
- NRM 282-282L - Natural Resource Statistics and Lab Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3
- PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4
  or PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- RANG 205 - Introduction to Range Management [SGR #6] Credits: 3
- RANG 210-210L - Range Plant Identification and Lab Credits: 2
- RANG 215 - Introduction to Integrated Ranch Management Credits: 3
- RANG 321 - Wildland Ecosystems Credits: 3
- RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4
- RANG 400 - Judging Teams Credits: 1
- RANG 421-521 - Grassland Fire Ecology Credits: 3
- RANG 425-425L/525-525L - Rangeland Assessment and Monitoring Lab Credits: 3
- RANG 491-591 - Independent Study (COM) Credits: 1-3 (1 credit required)
  or RANG 494 - Internship (COM) Credits: 1-12 (1 credit required)
  or RANG 496 - Field Experience (COM) Credits: 1-12 (1 credits required)
  or RANG 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4 (1 credit required)

### Supporting Coursework

- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
- BOT 301-301L - Plant Systematics (COM) Credits: 3
- AS 218 - Survey of Animal Nutrition Credits: 3
- PRAG 410-410L/510-510L - Soil Geography and Land Use Interpretation and Lab Credits: 2, 1
  or PS 462-462L/562-562L - Environmental Soil Management and Lab Credits: 3

### Select from the following

Select 6 credits from the following courses. Credits: 6

- AGEC 271 - Farm and Ranch Management Credits: 3
- BOT 303-303L - Forest Ecology and Management and Lab Credits: 3
- PS 313 - Forage Crop and Pasture Management Credits: 3
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 60-62 Credit Hours |
| Supporting Coursework | 19 Credit Hours |
| Electives** | 7-9 Credit Hour |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Ecology and Environmental Sciences (B.S.) - Rangeland Ecology and Management Specialization

## Economics (B.A./B.S.)

### Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The major in Economics provides rigorous training in economic theory and quantitative methods. Students develop analytical and critical-thinking skills, and are well trained for careers in policy analysis, financial analysis, business, or law school. Students may choose the general economics major in which they will customize their program of study by selecting electives in economics, finance or policy, or they can pursue the specialization in Agricultural Economics through the College of Agriculture, Food & Environmental Sciences. This program also provides strong preparation for students pursuing a graduate degree in economics, law, or a related field.

### Student Learning Outcomes

Graduates will

- Be able to use analytical methods to make effective decisions.
- Be able to communicate effectively.
- Be able to evaluate matters of ethics in the profession and the culture more broadly.
- Have the requisite body of knowledge in management and economics.

### Academic Requirements

If a student chooses to double major in two majors offered through the Ness School of Management and Economics (Economics, Agricultural Business, Business Economics and Entrepreneurial Studies), the second major needs to have at least 18 credits that are distinct from the first major.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Economics Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5 or MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- AGEC 479-579 - Agricultural Policy Credits: 3
  or ECON 413-513 - Macroeconomic Policy Credits: 3
  or ECON 433-533 - Public Finance (COM) Credits: 3
- AGEC, ECON, or FIN Electives (300-level or higher) Credits: 6
- ECON 119 - First Year Seminar Credits: 1
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- ECON 301 - Intermediate Microeconomics (COM) Credits: 3
- ECON 302 - Intermediate Macroeconomics (COM) Credits: 3
- ECON 319 - Seminar with Industry Leaders Credits: 1
- ECON 330 - Money and Banking (COM) Credits: 3
- ECON 423 - Introduction to Econometrics (COM) Credits: 3
- ECON 428 - Mathematical Economics Credits: 3
- ECON 485 - Economics Capstone Credits: 3 (Capstone)
- ECON Electives (300-level or higher) Credits: 6

### Supporting Coursework

- ENGL 379 - Technical Communication (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

| | |
|---|---|
| **Bachelor of Arts** | |
| System General Education Requirements | 31-32 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 47 Credit Hours |
| Supporting Coursework | 6 Credit Hours |
| Electives** | 32-33 Credit Hours |
| **Bachelor of Science** | |
| System General Education Requirements | 31-32 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 47 Credit Hours |
| Supporting Coursework | 6 Credit Hours |
| Electives** | 28-29 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Economics (B.A.)
- Economics (B.S.)

## Economics (B.S.) - Agricultural Economics Specialization

### Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The specialization in Agricultural Economics is an applied field of economics concerned with the application of economic theory in optimizing the production and distribution of food, biofuel and fiber. Students develop analytical and critical-thinking skills, and are well prepared for careers in agricultural policy analysis, natural resource stewardship, or future graduate study. The curriculum emphasizes economic theory, agricultural economics, quantitative methods, and agricultural and biological sciences electives. This program also provides strong preparation for students who wish to pursue a graduate degree in economics, agricultural economics, law, or related fields.

### Student Learning Outcomes

Graduates will

- Be able to use analytical methods to make effective decisions.
- Be able to communicate effectively.
- Be able to evaluate matters of ethics in the profession and the culture more broadly.
- Have the requisite body of knowledge in management and economics.

### Academic Requirements

If a student chooses to double major in two majors offered through the Ness School of Management and Economics (Economics, Agricultural Business, Business Economics and Entrepreneurial Studies), the second major needs to have at least 18 credits that are distinct from the first major.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Economics Major - Agricultural Economics Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5 or MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Agriculture, Food and Environmental Sciences Requirements

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- ABS 203 - Global Food Systems [SGR #3] Credits: 3
- AGEC 354 - Agricultural Marketing and Prices Credits: 3 (Major Requirement)
- Group 1 Courses in Agriculture Credits: 5

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AGEC 479-579 - Agricultural Policy Credits: 3
  or ECON 413-513 - Macroeconomic Policy Credits: 3
  or ECON 433-533 - Public Finance (COM) Credits: 3
- AGEC Electives (300-level or higher) Credits: 6
- AGEC, ECON, or FIN Electives (300-level or higher) Credits: 6
- ECON 119 - First Year Seminar Credits: 1
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- ECON 301 - Intermediate Microeconomics (COM) Credits: 3
- ECON 302 - Intermediate Macroeconomics (COM) Credits: 3
- ECON 319 - Seminar with Industry Leaders Credits: 1
- ECON 423 - Introduction to Econometrics (COM) Credits: 3
- ECON 428 - Mathematical Economics Credits: 3
- ECON 485 - Economics Capstone Credits: 3

### Supporting Coursework

- ENGL 379 - Technical Communication (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 31-32 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 47 Credit Hours |
| Supporting Coursework | 6 Credit Hours |
| Electives** | 27-28 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Economics (B.S.) - Agricultural Economics Specialization

## Electrical Engineering (B.S.)

### Program Coordinator/Contact

Siddharth Suryanarayanan, Department Head
Department of Electrical Engineering and Computer Science
Daktronics Engineering Hall 214
605-688-4526

### Program Information

Electrical engineers play key roles in solving technical problems in many areas including biomedical engineering, communications, computers and digital hardware, electronic materials and sensor devices, image processing, control systems, alternative energy and power systems.

The program begins the first year developing a strong foundation in mathematics, science, and communication. Unique to SDSU, the EE program boasts a first semester introductory hands-on lab experience followed by a first course in linear circuits and lab in the second semester. Following this are two intensive years of study in circuits, energy conversion, electronics, signal, systems and control theory, electronic material and devices, digital and microprocessor systems. The junior and senior years include courses that cover the breadth and depth of the field. During their senior year, students will select a specialization and take technical electives in their chosen area. The capstone of the program is Senior Design I and II, a two-semester sequence taken in the senior year that places every student on a team that designs, builds, tests, and demonstrates a significant electrical engineering project (typically industry sponsored), which 1) incorporates appropriate engineering standards and multiple constraints, and 2) is based on the knowledge and skills acquired in earlier course work; students also take a Project Management and Engineering Economics course that supports this sequence. The projects are developed in collaboration with SDSU researchers or industry and provide students valuable "real world" team design experience.

### Program Educational Objectives

The undergraduate EE program educational objectives are to equip individuals who, after graduation and initial work experience,

1. provide innovative and state-of-the-art approaches to solving complex technical problems through application of sound electrical engineering principles and make high quality technical decisions based on accumulated knowledge, experience, wisdom and common sense.
2. create positive organizational impact through individual contribution and teamwork with a commitment to working with others of diverse culture and interdisciplinary backgrounds.
3. demonstrate professional stewardship and ethical responsibility and exemplify a productive member of society by serving their communities and society.
4. illustrate initiative and successful career growth through measurable and impactful contributions that strongly support the organization's core high-level goals, accompanied by lifelong learning through graduate work, professional development and self-study, leading to increases in organizational responsibility.

### Student Outcomes

All graduates will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. an ability to communicate effectively with a range of audiences.
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

### Academic Requirements

Students will be admitted into junior level EE courses only after they have completed EE 216-216L, EE 218-218L, EE 222-222L, EE 245-245L, and EE 260 with minimum grades of "C." Students will not be permitted to enroll in subsequent courses for which EE 216-216L, EE 218-218L, EE 222-222L, EE 245-245L, and EE 260 is a prerequisite until the above requirement has been met. Students must also pass all junior electrical engineering courses (with the exception of EE 315 and EE 385) prior to taking EE 464 (Senior Design Project I (COM)). In addition to the graduation requirements and academic performance specified in this catalog, to earn the Bachelor of Science degree in Electrical Engineering a student must earn a CGPA of 2.0 or higher for all his/her Electrical Engineering courses combined. All graduating seniors are required to take the Fundamentals of Engineering examination which leads to professional registration.

### Accreditation, Certification, and Licensure

The Electrical Engineering (B.S.) program at SDSU is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org.

Upon successful completion of both the Electrical Engineering curriculum and the Fundamentals of Engineering (FE) exam, and five years of engineering work experience under a professional engineer (PE), the student is allowed to take the PE exam to become a licensed PE.

### Course Delivery Format

A majority of the courses are taught on campus in smart classrooms. A significant number of courses have an associated lab component that strengthens students' hand-on practical experience. The smart classrooms allow for a variety of methods for student engagement and faculty are able to record and post their lectures on-line.

### Requirements for Electrical Engineering Major: 130 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4

### Major Requirements

- EE 101L - Introduction to Electrical Engineering Lab Credits: 1
- EE 216-216L - Linear Circuits I and Lab Credits: 3, 1
- EE 218-218L - Linear Circuits II and Lab Credits: 3, 1
- EE 222-222L - Energy Conversion and Lab Credits: 3, 1
- EE 245-245L - Digital Systems and Lab Credits: 3, 1
- EE 260 - Electronic Materials Credits: 3
- EE 315 - Linear Control Systems Credits: 3
- EE 316 - Signals and Systems I Credits: 3
- EE 317 - Signals and Systems II Credits: 3
- EE 320-320L - Electronics I (COM) Credits: 3, 1
- EE 321-321L - Electronics II and Lab Credits: 3, 1
- EE 345 - Computer Organization Credits: 3
- EE 347-347L - Microcontroller Systems Design and Lab Credits: 3, 1
- EE 360 - Electronic Devices Credits: 3
- EE 385 - Electromagnetics Credits: 4
- EE 422 - Engineering Economics and Management Credits: 2
- EE 464 - Senior Design Project I (COM) Credits: 2
- EE 465 - Senior Design Project II (COM) Credits: 2

### Technical Electives

The 12 required technical electives must be from Electrical Engineering courses at the 400 level. These may be selected from specialization areas: Biomedical, Communications, Computers, Electronic Devices, Image Processing, or Power Systems. All EE majors are strongly advised to select technical electives in a coherent manner to meet desired professional/employment goals.

Some suggested areas of emphasis are listed below, which also identify courses outside of EE (courses outside of EE do not apply toward the required technical elective credits). Thus, students are not required to take all courses in an emphasis area. Following are some suggested areas and supporting courses.

### Biomedical Engineering Emphasis

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- EE 420-420L - Electronics III and Lab Credits: 3, 1
- EE 454-554 - Biomedical Instrumentation and Electrical Safety Credits: 3

### Communications and Advanced Electronics Emphasis

- CSC 474-574 - Computer Networks Credits: 3
- EE 420-420L - Electronics III and Lab Credits: 3, 1
- EE 470 - Communications Engineering Credits: 3
- PHYS 361 - Optics (COM) Credits: 3

### Computers-Digital Hardware Emphasis

- CSC 474-574 - Computer Networks Credits: 3
- EE 420-420L - Electronics III and Lab Credits: 3, 1
- EE 492-592 - Topics (COM) Credits: 1-4
- MATH 471-571 - Numerical Analysis I (COM) Credits: 3

### Electronic Devices and Materials Emphasis

- EE 460-460L/560-560L - Sensor and Measurements Laboratory Credits: 2, 1
- EE 492-592 - Topics (COM) Credits: 1-4
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
- PHYS 361 - Optics (COM) Credits: 3
- PHYS 439-539 - Condensed Matter Physics (COM) Credits: 3-4 (4 credits required)
- PHYS 471-571 - Quantum Mechanics (COM) Credits: 4

### Image Processing Emphasis

- EE 470 - Communications Engineering Credits: 3
- EE 475-575 - Digital Image Processing Credits: 3
- MATH 471-571 - Numerical Analysis I (COM) Credits: 3
- PHYS 361 - Optics (COM) Credits: 3

### Power Systems Emphasis

- EE 434-434L - Power Systems and Lab Credits: 3, 1
- EE 436-436L/536-536L - Photovoltaic Systems Engineering and Lab Credits: 3, 1
- EE 438 - Power Technology Tour Credits: 1
- EE 470 - Communications Engineering Credits: 3
- EE 492-592 - Topics (COM) Credits: 1-4

### Supporting Coursework

- CSC 150 - Computer Science I (COM) Credits: 3
- GE 101 - Introduction to Engineering and Technical Professions Credits: 1
- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3
- ME 314 - Thermodynamics Credits: 3
- PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3

### Total Required Credits: 130

### Cooperative Education Program

Students have the opportunity to work in industry and receive technical elective credit for the experience through EE 494 (Internship). A formal work plan must be approved by the Electrical Engineering administration prior to the work experience. Further information can be found in the Program's Internship and Cooperative Education policy, located on the program's Web site.

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Major Requirements | 69 Credit Hours |
| Supporting Coursework | 28 Credit Hours |
| Electives** | 0 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

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- Electrical Engineering (B.S.)

## Electronics Engineering Technology (B.S.)

### Program Coordinator/Contact

Byron Garry, Associate Professor
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417

### Program Information

The Electronics Engineering Technology Bachelor of Science degree program blends theory with an extensive hands-on, lab-based course sequence. The program has three key components: electronics foundations, advanced electronics applications, and applied management. The goal is to prepare graduates to use be proficient in using, developing, and troubleshooting electronic devices, networks, and controls. Electronics technology courses include circuits, analog and digital systems (intro and advanced), networking, programming, microcontrollers, industrial controls and PLCs, circuit board design, power systems, and communication systems. The program also includes courses in computer programming, project management, quality systems management, and statistics.

### Program Educational Outcomes

SDSU Electronics Engineering Technology graduates will become professionals who:

1. Achieve positions of increasing responsibility or leadership with employers, professional organizations, or civic organizations as an indicator of professional competence, demonstrate the ability to communicate effectively, and successfully function in team environments;
2. Apply principles of mathematics, science and management and use appropriate technology to solve current and future problems in the field of electronics technology; and,
3. Complete licensure, certification, short courses, workshops, and/or advanced degrees to be effective technical managers in the global business environment.

### Student Outcomes

EET graduates have:

1. an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline;
2. an ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
3. an ability to apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
4. an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and
5. an ability to function effectively as a member as well as a leader on technical teams.

The program provides coursework on campus, in classroom, laboratory, and in field-based settings. The EET program has three dedicated electronics labs for bench work, circuit testing, and project fabrication.

### Accreditation, Certification, and Licensure

The Electronics Engineering Technology (B.S.) program at SDSU is accredited by the Engineering Technology Accreditation Commission of ABET, https://www.abet.org.

### Requirements for Electronics Engineering Technology Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4 and PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4

### Major Requirements

- ET 210-210L - Introduction to Electronic Systems Credits: 4
- ET 220-220L - Analog Electronics and Lab Credits: 4
- ET 232-232L - Digital Electronics and Microprocessors and Lab Credits: 3
- ET 240 - Techniques of Servicing Credits: 3
- ET 325-325L - Advanced Analog Electronics and Lab Credits: 4
- ET 330-330L - Microcontrollers and Networks and Lab Credits: 3
- ET 332-332L - Advanced Digital Electronics and Lab Credits: 3
- ET 345-345L - Power Systems and Lab Credits: 3
- ET 380-380L - Circuit Boards and Design and Lab Credits: 3
- ET 426-426L - Communication Systems and Lab Credits: 3
- ET 451-451L - Industrial Controls and PLCs and Lab Credits: 3
- ET 471 - Capstone Experience Credits: 2
- ET 490 - Seminar (COM) Credits: 1

### Supporting Coursework

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- BADM 360 - Organization and Management (COM) Credits: 3
  or GE 385 - Introduction to Systems Engineering and Management Credits: 3
- CM 130 - Management Tools and Analysis Credits: 3
- CSC 150 - Computer Science I (COM) Credits: 3
- GE 101 - Introduction to Engineering and Technical Professions Credits: 1
- GE 121 - Engineering Design Graphics I Credits: 1
- GE 123 - Computer Aided Drawing Credits: 1
- GE 231 - Technology, Society, and Ethics Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
  or LDR 435 - Organizational Leadership and Team Development Credits: 3
- MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5
- MNET 367-367L - Production Strategy and Lab Credits: 3
- OM 462-562 - Quality Management Credits: 3
- OM 470 - Project Management Credits: 2
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
- Technical Electives Credits: 12

### Total Required Credits: 120

### Internship Program

Students have the opportunity to work in industry and receive technical elective credit for the experience through OM 494. A formal work plan must be approved by the Internship Supervisor and Faculty Advisor prior to registering for internship credits. Further information can be found in the department.

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| Major Requirements | 39 Credit Hours |
| Supporting Coursework | 49 Credit Hours |
| Electives** | 0 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Electronics Engineering Technology (B.S.)

## Engineering Technology (A.S.)

### Program Coordinator/Contact

Jason Prout, Instructor
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417

### Program Information

The Engineering Technology program provides content in basic engineering principles as applied in manufacturing and related industries. The Engineering Technology major prepares graduates for entry into or promotion within the manufacturing and related industry sectors in positions as production scheduler, maintenance planner, product testing and development, technical operations, quality control, product sales, team lead, and/or supervisor/foreman. Completion of this major will provide students with a sound foundation for continuing on for a Bachelor's degree when they desire to do so. Graduates of the A.S. in Engineering Technology may transfer to a bachelor's degree program at SDSU in Operations Management (B.S.) or Electronics Engineering Technology (B.S.).

### Student Learning Outcomes

Upon graduation from the A.S. in Engineering Technology, students will possess:

- An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline;
- An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the discipline;
- An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
- An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results; and
- An ability to function effectively as a member of a technical team.

### Course Delivery Format

The program provides coursework in classroom, laboratory, and field-based settings.

### Requirements for Engineering Technology Major: 60 Credits

*Associate of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and SGR #1 Elective Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 0-3*
- Goal #4 Arts and Humanities/Diversity: SGR #4 Elective Credits: 3-6*
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 and SGR #6 Elective Credits: 0-3*

*Three additional credits selected from approved list of courses for Goals #3, #4, or #6 to reach 24 System General Education Requirements for the Associate Degree.

### Major Requirements

- ET 210-210L - Introduction to Electronic Systems Credits: 4
- GE 101 - Introduction to Engineering and Technical Professions Credits: 1
- GE 121 - Engineering Design Graphics I Credits: 1
- GE 122 - Engineering Design Graphics II Credits: 1
- GE 123 - Computer Aided Drawing Credits: 1
- GE 265 - Industrial Safety Credits: 3
- MNET 243 - Introduction to Materials Science Credits: 3
- MNET 265 - Quality Assurance Credits: 3

### Technical Electives

Select nine credits of technical electives. Courses will require advisor approvals. The following are recommended courses. Credits: 9

- ET 220-220L - Analog Electronics and Lab Credits: 4
  or GE 231 - Technology, Society, and Ethics Credits: 3
  and GE 396 - Field Experience (COM) Credits: 1-3 (1 credit required)
- GE 210 - Geometric Dimensioning and Tolerancing Credits: 2
- MNET 150 - Introduction to Manufacturing Processes Credits: 3

### Supporting Coursework

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- CM 130 - Management Tools and Analysis Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Total Required Credits: 60

### Summary of Program Requirements

**Associate of Science**

| | |
|---|---|
| System General Education Requirements | 25 Credit Hours |
| Major Requirements | 26 Credit Hours |
| Supporting Coursework | 9 Credit Hours |
| Electives** | 0 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Engineering Technology (A.S.)

## English (B.A.)

### Program Coordinator/Contact

Jason McEntee, Department Head
Department of English and Interdisciplinary Studies
Pugsley Hall 301, Box 2218
605-688-5191

### Program Information

The English major requires 45 credits in English and linguistics courses and is designed to give the student a broad overview of literature, writing, and the language.

### Student Learning Outcomes

The English and Interdisciplinary Studies department's B.A. program prepares students to become innovative professionals and global citizens by teaching them to read closely and critically, write creatively and persuasively, and explore the beauty and value of diverse literatures and cultures.

- Analyze texts closely and critically, using key literary terms and concepts to interpret how the specific elements of a text contribute to its larger meanings.
- Identify significant texts, authors, periods, movements, genres, theories, or modes from literary history, explaining how literary texts engage with their historical, cultural, aesthetic, or ideological contexts.
- Identify key theoretical ideas, concepts, or methodologies and apply them to the reading and writing of texts.
- Write argumentative, creative, and reflective texts that demonstrate focus, content, structure, evidence, style, and grammar appropriate to their rhetorical contexts.
- Conduct scholarly research that incorporates the use of library resources and discipline-specific databases; the evaluation and integration of secondary sources; and the documentation of primary and secondary sources using MLA style.

- Explain how literature both reflects and enriches the diversity of human experience through its exploration of the ways in which race, ethnicity, religion, gender, sexuality, ability, or class shape identity and influence perception.

### Academic Requirements

To count toward the Major, courses must be passed with a minimum grade of "C." Topics courses may only fulfill the specific requirements when approved by the department. All sections of ENGL 210 count as a major elective.

### Course Delivery Format

The department offers coursework on campus, online, and at attendance centers around the state.

### Requirements for English Major: 120 Credits

*Bachelor of Arts*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6 (Recommended to select Modern Language courses)
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts specifications.

### Major Requirements

- ENGL 151 - Introduction to English Studies Credits: 3 [1]
- ENGL 221 - British Literature I (COM) [SGR #4] Credits: 3
- ENGL 222 - British Literature II (COM) [SGR #4] Credits: 3
- ENGL 241 - American Literature I (COM) [SGR #4] Credits: 3
- ENGL 242 - American Literature II (COM) [SGR #4] Credits: 3
- ENGL 284 - Introduction to Criticism (COM) [SGR #1] Credits: 3
- ENGL 479 - Capstone Course and Writing in the Discipline Credits: 3 [3] (Capstone)
- ENGL Electives: 6

### 100-200 Level Course

Select one 100-200 level course. Credits: 3

- ENGL 125 - Introduction to Peace and Conflict Studies [SGR #4] Credits: 3
- ENGL 210 - Introduction to Literature (COM) [SGR #4] Credits: 3
- ENGL 211 - World Literature I (COM) [SGR #4] Credits: 3
- ENGL 212 - World Literature II (COM) [SGR #4] Credits: 3
- ENGL 240 - Juvenile Literature [SGR #4] Credits: 3
- ENGL 248 - Women in Literature (COM) [SGR #4] Credits: 3
- ENGL 249 - Literature of Diverse Cultures [SGR #4] Credits: 3
- ENGL 250 - Science Fiction (COM) [SGR #4] Credits: 3
- ENGL 256 - Literature of the American West (COM) [SGR #4] Credits: 3
- ENGL 268 - Literature (COM) [SGR #4] Credits: 3

### 300 Level Literature Courses

Select two 300 level literature courses. Credits: 6

- ENGL 330 - Shakespeare (COM) Credits: 3
- ENGL 343 - Selected Authors (COM) Credits: 1-3
- ENGL 363 - Literary Genres (COM) Credits: 3

### 400 Level Literature Course

Select one 400 level literature course. Credits: 3

- ENGL 445 - American Indian Literature (COM) Credits: 3
- ENGL 447 - American Indian Literature of the Present Credits: 3
- ENGL 492 - Topics (COM) Credits: 1-5 (3 credits required)

### Writing Course

Select one writing course. Credits: 3

- ENGL 379 - Technical Communication (COM) Credits: 3
- ENGL 383 - Creative Writing (COM) Credits: 3

### Linguistics Course

Select one linguistics course. Credits: 3

- LING 203 - English Grammar Credits: 3
- LING 420-520 - The New English Credits: 3
- LING 425 - Modern Grammar (COM) Credits: 3
- LING 452-552 - General Semantics Credits: 3

### Supporting Coursework

- HIST 111 - World Civilizations I (COM) [SGR #4] Credits: 3
  and HIST 112 - World Civilizations II (COM) [SGR #4] Credits: 3
  or
  HIST 121 - Western Civilization I (COM) [SGR #4] Credits: 3
  and HIST 122 - Western Civilization II (COM) [SGR #4] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Notes

[1] The department strongly recommends that students take ENGL 151 prior to their junior year.
[2] When approved by the department.
[3] Students must have senior standing and have completed ENGL 151 in order to enroll in ENGL 479.

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 45 Credit Hours |
| Supporting Coursework | 6 Credit Hours |
| Electives** | 36 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- English (B.A.)

## English (B.A.) - English Education Specialization

### Program Coordinator/Contact

Jason McEntee, Department Head
Department of English and Interdisciplinary Studies
Pugsley Hall 301, Box 2218
605-688-5191

### Program Information

The English Education Specialization requires 39 hours in English and linguistics courses and is designed to prepare the student for a career in high school or middle school teaching. Students preparing for careers in secondary education will also complete the required education courses for teacher certification.

### Student Learning Outcomes

The English and Interdisciplinary Studies department's B.A. program prepares students to become innovative professionals and global citizens by teaching them to read closely and critically, write creatively and persuasively, and explore the beauty and value of diverse literatures and cultures.

- Analyze texts closely and critically, using key literary terms and concepts to interpret how the specific elements of a text contribute to its larger meanings.
- Identify significant texts, authors, periods, movements, genres, theories, or modes from literary history, explaining how literary texts engage with their historical, cultural, aesthetic, or ideological contexts.
- Identify key theoretical ideas, concepts, or methodologies and apply them to the reading and writing of texts.
- Write argumentative, creative, and reflective texts that demonstrate focus, content, structure, evidence, style, and grammar appropriate to their rhetorical contexts.
- Conduct scholarly research that incorporates the use of library resources and discipline-specific databases; the evaluation and integration of secondary sources; and the documentation of primary and secondary sources using MLA style.
- Explain how literature both reflects and enriches the diversity of human experience through its exploration of the ways in which race, ethnicity, religion, gender, sexuality, ability, or class shape identity and influence perception.

### Academic Requirements

- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's Secondary preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

The department offers coursework on campus, online, and at attendance centers around the state.

### Requirements for English Major - English Education Specialization: 120 Credits

*Bachelor of Arts*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3 and/or PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 0-3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6 (Recommended to Select Modern Language Courses)
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts specifications.

### Major Requirements

- ENGL 151 - Introduction to English Studies Credits: 3
- ENGL 221 - British Literature I (COM) [SGR #4] Credits: 3
- ENGL 222 - British Literature II (COM) [SGR #4] Credits: 3
- ENGL 240 - Juvenile Literature [SGR #4] Credits: 3
- ENGL 241 - American Literature I (COM) [SGR #4] Credits: 3
- ENGL 242 - American Literature II (COM) [SGR #4] Credits: 3
- ENGL 284 - Introduction to Criticism (COM) [SGR #1] Credits: 3
- ENGL 330 - Shakespeare (COM) Credits: 3
- ENGL 383 - Creative Writing (COM) Credits: 3
- ENGL 424 - 7-12 Language Arts Methods Credits: 3
- ENGL 445 - American Indian Literature (COM) Credits: 3
  or ENGL 447 - American Indian Literature of the Present Credits: 3
- ENGL 479 - Capstone Course and Writing in the Discipline Credits: 3 (Capstone)
- LING 203 - English Grammar Credits: 3

### Supporting Coursework

- HIST 111 - World Civilizations I (COM) [SGR #4] Credits: 3
  and HIST 112 - World Civilizations II (COM) [SGR #4] Credits: 3
  or
  HIST 121 - Western Civilization I (COM) [SGR #4] Credits: 3
  and HIST 122 - Western Civilization II (COM) [SGR #4] Credits: 3

### Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3 (College Requirement)
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- ENGL 424 - 7-12 Language Arts Methods Credits: 3 (Teaching Content Methods Requirement) (Major Requirement)
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 39 Credit Hours |
| Teaching Specialization Requirements | 31 Credit Hours |
| Supporting Coursework | 6 Credit Hours |
| Electives** | 11 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- English (B.A.) - English Education Specialization

## English (B.A.) - Writing Specialization

### Program Coordinator/Contact

Jason McEntee, Department Head
Department of English and Interdisciplinary Studies
Pugsley Hall 301, Box 2218
605-688-5191

### Program Information

The English Major - Writing Specialization requires 45 hours of literature, linguistics and writing courses. Students receive a well-rounded background in literature, but with more intensive work in Creative and/or Professional writing. This program serves students seeking careers in creative or professional writing.

### Student Learning Outcomes

The English and Interdisciplinary Studies department's B.A. program prepares students to become innovative professionals and global citizens by teaching them to read closely and critically, write creatively and persuasively, and explore the beauty and value of diverse literatures and cultures.

- Analyze texts closely and critically, using key literary terms and concepts to interpret how the specific elements of a text contribute to its larger meanings.
- Identify significant texts, authors, periods, movements, genres, theories, or modes from literary history, explaining how literary texts engage with their historical, cultural, aesthetic, or ideological contexts.
- Identify key theoretical ideas, concepts, or methodologies and apply them to the reading and writing of texts.
- Write argumentative, creative, and reflective texts that demonstrate focus, content, structure, evidence, style, and grammar appropriate to their rhetorical contexts.
- Conduct scholarly research that incorporates the use of library resources and discipline-specific databases; the evaluation and integration of secondary sources; and the documentation of primary and secondary sources using MLA style.
- Explain how literature both reflects and enriches the diversity of human experience through its exploration of the ways in which race, ethnicity, religion, gender, sexuality, ability, or class shape identity and influence perception.

### Academic Requirements

To count toward the Major, courses must be passed with a minimum grade of "C." Topics courses may only fulfill the specific requirements when approved by the department. All sections of ENGL 210 count as a major elective.

### Course Delivery Format

The department offers coursework on campus, online, and at attendance centers around the state.

### Requirements for English Major - Writing Specialization: 120 Credits

*Bachelor of Arts*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6 (Recommended to select Modern Language Courses)
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts specifications.

### Major Requirements

- ENGL 151 - Introduction to English Studies Credits: 3
- ENGL 284 - Introduction to Criticism (COM) [SGR #1] Credits: 3
- ENGL 379 - Technical Communication (COM) Credits: 3
- ENGL 383 - Creative Writing (COM) Credits: 3
- ENGL 479 - Capstone Course and Writing in the Discipline Credits: 3 (Capstone)
- ENGL Electives: 6

### 100-200 Level Course

Select one 100-200 level course. Credits: 3

- ENGL 125 - Introduction to Peace and Conflict Studies [SGR #4] Credits: 3
- ENGL 210 - Introduction to Literature (COM) [SGR #4] Credits: 3
- ENGL 211 - World Literature I (COM) [SGR #4] Credits: 3
- ENGL 212 - World Literature II (COM) [SGR #4] Credits: 3
- ENGL 240 - Juvenile Literature [SGR #4] Credits: 3
- ENGL 248 - Women in Literature (COM) [SGR #4] Credits: 3
- ENGL 249 - Literature of Diverse Cultures [SGR #4] Credits: 3
- ENGL 250 - Science Fiction (COM) [SGR #4] Credits: 3
- ENGL 256 - Literature of the American West (COM) [SGR #4] Credits: 3
- ENGL 268 - Literature (COM) [SGR #4] Credits: 3 (if multicultural topic)

### 300-400 Level Literature Courses

Select one 300-400 level literature course. Credits: 3

- ENGL 330 - Shakespeare (COM) Credits: 3
- ENGL 343 - Selected Authors (COM) Credits: 1-3
- ENGL 363 - Literary Genres (COM) Credits: 3
- ENGL 445 - American Indian Literature (COM) Credits: 3
- ENGL 447 - American Indian Literature of the Present Credits: 3
- ENGL 492 - Topics (COM) Credits: 1-5 (3 credits required)

### Writing Courses

Select three writing courses. Credits: 9

- ENGL 283 - Introduction to Creative Writing (COM) [SGR #1] Credits: 3
- ENGL 483-583 - Advanced Creative Writing (COM) Credits: 3
- ENGL 492 - Topics (COM) Credits: 1-5 (3 credits required) (on Professional or Creative Writing)

### Linguistics Course

Select one linguistics course. Credits: 3

- LING 203 - English Grammar Credits: 3
- LING 420-520 - The New English Credits: 3
- LING 425 - Modern Grammar (COM) Credits: 3
- LING 452-552 - General Semantics Credits: 3

### Literary History

Select two courses in literary history. Credits: 6

- ENGL 221 - British Literature I (COM) [SGR #4] Credits: 3
- ENGL 222 - British Literature II (COM) [SGR #4] Credits: 3
- ENGL 241 - American Literature I (COM) [SGR #4] Credits: 3
- ENGL 242 - American Literature II (COM) [SGR #4] Credits: 3

### Supporting Coursework

- HIST 111 - World Civilizations I (COM) [SGR #4] Credits: 3
  and HIST 112 - World Civilizations II (COM) [SGR #4] Credits: 3
  or
  HIST 121 - Western Civilization I (COM) [SGR #4] Credits: 3
  and HIST 122 - Western Civilization II (COM) [SGR #4] Credits: 3

### Electives

- ENGL 494 - Internship (COM) Credits:1-12 *highly recommended*
- See other departments' courses for additional content-based writing electives.

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 45 Credit Hours |
| Supporting Coursework | 6 Credit Hours |
| Electives** | 36 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- English (B.A.) - Writing Specialization

## Entrepreneurial Studies (B.A./B.S.)

### Program Coordinator/Contact

Barb Heller, Entrepreneurship Coordinator
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The major in Entrepreneurial Studies is designed to enhance entrepreneurial talent by providing students with the knowledge, skills and experiences to think entrepreneurially and create value in our society. The program allows students to cultivate a mindset for thinking creatively and develop the ability to be innovative. The curriculum emphasizes entrepreneurship, business management, and interdisciplinary electives.

### Student Learning Outcomes

Graduates will:

- Be able to use analytical methods to make effective decisions.
- Be able to communicate effectively.
- Be able to evaluate matters of ethics in the profession and the culture more broadly.
- Have the requisite body of knowledge in management and economics.

### Academic Requirements

Students must earn a grade of "C" or better in CSC/MGMT 325 - Management Information Systems (COM), FIN 310 - Business Finance (COM), HRM 460 - Human Resource Management (COM), and MGMT 360 - Organization and Management (COM).

If a student chooses to double major in two majors offered through the Ness School of Management and Economics (Economics, Agricultural Business, Business Economics and Entrepreneurial Studies), the second major needs to have at least 18 credits that are distinct from the first major.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Entrepreneurial Studies Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5 or MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- BADM 101 - Survey of Business (COM) Credits: 3
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- DSCI 424 - Operations Research (COM) Credits: 3
  or BADM 321 - Business Statistics II (COM) Credits: 3
- ECON 119 - First Year Seminar Credits: 1
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- ECON 301 - Intermediate Microeconomics (COM) Credits: 3
  or ECON 431 - Managerial Economics Credits: 3
- ECON 302 - Intermediate Macroeconomics (COM) Credits: 3
  or ECON 330 - Money and Banking (COM) Credits: 3
- ECON 319 - Seminar with Industry Leaders Credits: 1
- ENTR 236 - Innovation and Creativity Credits: 3
- ENTR 237 - Entrepreneurship Development Credits: 3
- ENTR 338 - New Venture Creation Credits: 3
- ENTR 410 - Financing Innovative Ideas Credits: 3
- ENTR 485 - Entrepreneurial Studies Capstone Credits: 3 (Capstone)
- FIN 310 - Business Finance (COM) Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT/ CSC 325 - Management Information Systems (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3
- ACCT, AGEC, BADM, BLAW, ECON, ENTR, FIN, HRM, MGMT, or MKTG Electives; or DSCI 424 or DSCI 453-553 Credits: 3

### Supporting Coursework

- ENGL 379 - Technical Communication (COM) Credits: 3

- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

| Bachelor of Arts | |
|---|---|
| System General Education Requirements | 31-32 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 62 Credit Hours |
| Supporting Coursework | 6 Credit Hours |
| Electives** | 11-12 Credit Hours |
| **Bachelor of Science** | |
| System General Education Requirements | 31-32 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 62 Credit Hours |
| Supporting Coursework | 6 Credit Hours |
| Electives** | 13-14 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Entrepreneurial Studies (B.A.)
- Entrepreneurial Studies (B.S.)

## Exercise Science (B.S.)

### Program Coordinator/Contact

Jessica Meendering, PhD, ACSM-EP, Coordinator
School of Health and Consumer Sciences
Wagner Hall 405, Box 2275A
605-688-5949

### Program Information

The South Dakota State University Exercise Science program aspires to prepare health and fitness professionals with a strong understanding of the scientific concepts behind the application that is practiced in a variety of health and fitness careers. The mission of the Exercise Science program at South Dakota State University is to prepare competent entry-level Exercise Science professionals in the cognitive (knowledge), psychomotor (skills), and affective (abilities) learning domains that will assist others in adopting and championing healthy, active lifestyles.

The Exercise Science graduate will have the ability to raise awareness about health and physical activity, change behavior, and create environments that support good health practices, including, but not limited to exercise and physical activity. The exercise science professional assists people to develop self-responsibility for their own health and wellness, and implement health assessments and wellness programs that promote a healthy lifestyle. Exercise Science professionals work and study in commercial, clinical, and workplace settings to increase health, fitness, and quality of life for the general population. The exercise science professional is also able to apply their knowledge of acute and chronic exercise physiology to promote better health, reduce chronic disease, or to enhance the performance of athletes.

### Student Learning Outcomes

Upon completion of the Exercise Science curriculum students will be able to meet the following outcomes:

- Apply knowledge of the acute and chronic physiological adaptations to exercise to common practices in the field of exercise physiology.
- Plan a health education/promotion program among diverse populations and in various health settings.
- Develop an academic and career plan to include coursework, degrees, professional development activities, and goals.
- Demonstrate competence in conducting health and fitness laboratory/field tests in exercise science.
- Create a strength and conditioning program for a healthy client that demonstrates application of the theories and principles of strength and conditioning.
- Analyze graded exercise stress test data pertaining to heart rate, blood pressure, and 12-lead ECG results.
- Perform a qualitative movement analysis of a client/athlete/patient and explain the underlying movement mechanics responsible for their faulty movement patterns.
- Apply the principles of exercise testing and prescription to special populations to create safe and effective exercise plans aimed at treating and preventing chronic illness.
- Create and lead a group fitness class utilizing the principles of an ACSM certified group fitness instructor.
- Conduct a personal fitness evaluation and evaluate the results to create a personalized fitness plan specific to the needs of the client.
- Remember, understand, and apply the knowledge, skills and abilities required of a Certified Exercise Physiologist.

### Program Application

Students interested in exercise science should complete coursework to meet system and institutional general education requirements, as well as BIOL 221-221L and BIOL 325-325L during their freshman and sophomore years. Students who declare Exercise Science will be assigned an adviser who works closely with the Exercise Science Program. Application for admission into the Exercise Science major can begin during or after a student's sophomore year (approximately 32 credit hours). Students must complete BIOL 221-221L - Human Anatomy and Lab (COM) and BIOL 325-325L - Physiology and Lab (COM) by the final semester of the application year.

Students will complete an application to the Exercise Science program. The minimum selection criteria are as follows: student should display an interest and desire to pursue a career in an exercise science related field; successful completion (C or better) of BIOL 221-221L - Human Anatomy and Lab (COM) and BIOL 325-325L - Physiology and Lab (COM); and a cumulative GPA of 2.75 or better.

### Academic Requirements

A minimum final grade of "C" is required in all Major Requirements courses. Students must maintain a cumulative GPA of 2.75 or higher to progress/graduate from the program.

### Accreditation, Certification, and Licensure

The program is accredited by the Commission on Accreditation of Allied Health Education Programs upon recommendation of the Committee on Accreditation for the Exercise Sciences.

All Exercise Science students have the opportunity to sit for the Certified Exercise Physiologist Exam offered through the American College of Sports Medicine during their final year in the program.

### Course Delivery Format

Course instruction occurs through face to face and online course instruction that includes lectures, discussions, laboratories, internship and field experiences, and service learning.

### Requirements for Exercise Science Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3 and PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3 or higher level SGR #5 course
- Goal #6 Natural Sciences: CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1 or CHEM 112-112L -

General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- CHRD 475 - Motivational Interviewing and Wellness Counseling Credits: 3
- EXS 350 - Exercise Physiology (COM) Credits: 2-3
- EXS 354-354L - Prevention and Care of Athletic Injuries and Lab (COM) Credits: 2
- EXS 367-367L - Health and Human Performance and Lab Credits: 3
- EXS 380 - Professional Development Credits: 1
- EXS 400-400L - Exercise Test and Prescription and Lab (COM) Credits: 3
- EXS 420-420L - Group Exercise and Facility Management and Lab Credits: 2
- EXS 450-550 - Clinical Exercise Physiology Credits: 3
- EXS 454-454L - Biomechanics and Lab (COM) Credits: 3
- EXS 455-555 - ECG and Clinical Stress Testing Credits: 3
- EXS 480 - Certification Exam Preparation Credits: 1
- EXS 494 - Internship (COM) Credits: 1-12 (2 credit required)
- EXS 496 - Field Experience (COM) Credits: 1-6 (3 credits required)
- HLTH 220 - Social Determinants of Health Credits: 3
- HLTH 250-250L - Pre-Professional First Aid and CPR and Lab (COM) Credits: 2
  or HLTH 364-364L - Emergency Medical Technician and Lab (COM) Credits: 4
- HLTH 445 - Epidemiology Credits: 3
- HLTH 479-479L - Health Promotion Programming and Evaluation and Lab Credits: 2
- NURS 201 - Medical Terminology Credits: 1
- NURS 323 - Introduction to Pathophysiology Credits: 3
- NUTR 315 - Human Nutrition (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32-33 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 57-59 Credit Hours |
| Electives** | 24-27 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

Exercise Science (B.S.)

## Family & Consumer Sciences Education (B.S.)

### Program Coordinator/Contact

Nicole A. Graves, Assistant Professor
School of Education, Counseling and Human Development
Wenona Hall 102
605-688-6484

### Program Information

As a family and consumer sciences educator, the Family and Consumer Sciences Education graduate is qualified to teach content in a wide range of settings, including in middle and high schools, occupational training programs, adult programs, or to serve as an extension educator. The FCSE program prepares students with comprehensive subject matter background from all areas of family and consumer sciences, (human development, family studies, consumer affairs, apparel, housing, nutrition, hospitality, and personal finance) contributing to the versatility of the major. The program focuses on characteristics of various learners or clients, learning principles and different applications of the teaching-learning process.

### Student Learning Outcomes

Upon completion of the Family and Consumer Sciences major students will:

- Analyze family, community, and work interrelationships; investigate career paths; examine family and consumer sciences careers; and apply career decision making and transitioning processes.
- Use resources responsibly to address the diverse needs and goals of individuals, families, and communities in family and consumer sciences areas such as resource management, consumer economics, financial literacy, living environments, and textiles and apparel.
- Apply principles of human development, interpersonal relationships, and family to strengthen individuals and families across the lifespan in contexts such as parenting, care giving, and the workplace.
- Promote nutrition, food, and wellness practices that enhance individual and family well- being across the lifespan and address related concerns in a global society.
- Develop, justify, and implement curricula that address perennial and evolving family, career, and community issues; reflect the integrative nature of family and consumer sciences; and integrate core academic areas.
- Facilitate students' critical thinking and problem solving in family and consumer sciences through varied instructional strategies and technologies and through responsible management of resources in schools, communities, and the workplace.
- Create and implement a safe, supportive learning environment that shows sensitivity to diverse needs, values, and characteristics of students, families, and communities.
- Engage in ethical professional practice based on the history and philosophy of family and consumer sciences and career and technical education through civic engagement, advocacy, and ongoing professional development.
- Assess, evaluate, and improve student learning and programs in family and consumer sciences using appropriate criteria, standards, and processes.
- Integrate the Family, Career and Community Leaders of America student organization into the program to foster students' academic growth, application of family and consumer sciences content, leadership, service learning, and career development.
- The teacher candidate will foster relationships with school colleagues, parents, and agencies in the larger community to support students' learning and well being.

### Academic Requirements

- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with school/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's Secondary preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Coursework in the FCSE program is delivered using lectures, discussions, collaborative group work, inquiry-based projects, and applied learning in field experiences, practicums, and internships.

### Requirements for Family and Consumer Sciences Education Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 and HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6 (Biology or Chemistry recommended)

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- AGED 295 - Practicum (COM) Credits: 1
  or FCSE 295 - Practicum (COM) Credits: 1
- AGED/ FCSE 405 - Philosophy of Career and Technical Education Credits: 2
- AGED/ FCSE 431-531 - Work Based Learning Credits: 2
- AGED 494 - Internship (COM) Credits: 1-12 (1 credit required)
  or FCSE 494 - Internship (COM) Credits: 1-12 (1 credit required)
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- CA 289 - Consumers in the Market Credits: 3
- CA 345 - Foundations in Financial Management Credits: 3
- CA 442 - Family Resource Management Lab Credits: 3
  or HDFS 425-525 - Family Resiliency Credits: 3
- ECE 220 - Health, Safety and Nutrition of Young Children Credits: 2-3 (2 credits required)
- ECE 455 - Administration and Supervision of Early Childhood Setting Credits: 3
- ECE 496 - Field Experience (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- FCSE 332 - Housing in Family & Consumer Sciences Education Credits: 3
- FCSE 411 - Philosophy and Methods Family and Consumer Sciences Credits: 4
- FSRM 231-231L - Ready-To-Wear Analysis and Lab Credits: 3
- HDFS 227 - Human Development and Personality I: Childhood Credits: 3
- HDFS 410-510 - Parenting Credits: 3
- HMGT 171 - Introduction to Hospitality, Tourism, and Event Industry Credits: 3
- NUTR 111 - Food, People and the Environment Credits: 3
- NUTR 141-141L - Foods Principles and Lab Credits: 4
- NUTR 221 - Survey of Nutrition Credits: 3
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Education and Human Science Requirements | 4 Credits Hours |
| Major Requirements | 83 Credit Hours |
| Electives** | 3 Credit Hours |

**Taken as needed to complete any additional degree requirements

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

Family and Consumer Sciences Education (B.S.)

## Fashion Studies & Retail Merchandising (B.S.)

### Program Coordinator/Contact

Anne-Marie Junker, Program Coordinator
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5161

### Program Information

A career in Fashion Studies and Retail Merchandising is perfect for those with a flair for creativity and a passion for analytics. Students in Fashion Studies and Retail Merchandising acquire an in-depth knowledge of people and their behavior, an understanding of the world at large and technical knowledge and skills to select, plan and present the right merchandise to the right consumer at the right time. Graduates are prepared to work in online and brick and mortar markets. Careers as store or department manager, buyer or visual merchandiser, ecommerce specialist, sourcing specialist, and style consultant are possible.

### Student Learning Outcomes

Upon the completion of the Fashion Studies and Retail Merchandising major, students will:

- Apply industry terminology, theories, and concepts in appropriate ways to discuss and critique product quality, serviceability, regulatory compliance standards, merchandising strategies, market trends, retail environments, regulatory factors, and global factors related to the fashion and textile industry.
- Demonstrate understanding of the fashion process, including the forces that drive fashion changes and diffusion of innovation and ideas.
- Identify and interpret needs, wants, and aspirations of consumers, and outline how industry processes can be applied to forecast, plan, develop, produce, communicate, and sell profitable product lines of products that meet the marketplace' needs.
- Demonstrate and apply knowledge about the role of dress as it reflects and shapes intra- and inter-cultural interactions, ideals, values, norms, traditions, appearance management, and human behavior.
- Apply knowledge of the role of dress as it is used to create, express, and fulfill identities, lifestyles, and fantasies.
- Understand the role of historic, socio-cultural, economic, technological, political, and psychological factors in aesthetic expression and development of styles.
- Understand how aesthetics and the design process can support quality of life.
- Demonstrate understanding how globalization, market conditions, diverse economic systems and political structures, regulatory factors, cultural norms and values, historic events, geographic locations, and social issues affect industry processes and sourcing strategies.
- Identify and evaluate issues of social responsibility, environmental sustainability, professional behavior, and ethics related to the impact of individual, organizational, societal, and corporate decision-making.
- Apply critical and creative thinking skills, including the ability to objectively evaluate and compare diverse perspectives.
- Formulate sound conclusions and decisions by using appropriate technology, knowledge, and business practices to identify, assess, analyze relevant factors that influence the industry and related strategies.

- Apply qualitative and quantitative skills to problem solving and formulate creative strategies to current issues and future opportunities in the industry.
- Use effective and professional written, oral, and visual communication skills to inform, explain, and support ideas, decisions, evaluations, and strategies.
- Demonstrate ability to take appropriate responsibility for their personal and professional growth, including reflection and critiquing of their progress, outlining their career goals, and demonstrate self-directedness.
- Illustrate effective team working and leadership skills within professional and culturally diverse environments.

### Course Delivery Format

Students learn through lecture, laboratory, and hands-on learning experiences. An 8-10 week (300 hour) full-time summer practicum compatible with career goals is a program requirement.

### Requirements for Fashion Studies and Retail Merchandising Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3 or CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 or ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3 and PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 or SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: ARTH 100 - Art Appreciation (COM) [SGR #4] Credits: 3 and HIST 121 - Western Civilization I (COM) [SGR #4] Credits: 3 or HIST 122 - Western Civilization II (COM) [SGR #4] Credits: 3
- Goal #5 Mathematics: MATH 103 - Mathematical Reasoning (COM) [SGR #5] Credits: 3 or MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- CA/ CS 230 - Consumer Behavior Credits: 3
- CA/ CS 430 - Consumer Decision Making Credits: 3
- CS/ FSRM 282 - Customer Service Credits: 3
- CS 377 - Professional Documents Credits: 1
- FSRM 172 - Introduction to Apparel Merchandising Credits: 2
- FSRM 231-231L - Ready-To-Wear Analysis and Lab Credits: 3
- FSRM 242-242L - Textiles I and Lab Credits: 3
- FSRM 253 - Socio-Psychological Aspects of Dress Credits: 3
- FSRM 274-274L - Fashion Promotion and Lab Credits: 3
- FSRM 315-315L - Apparel Design and Lab Credits: 3
- FSRM 352 - History of Dress in the Western World Credits: 3
- FSRM 361-361L - Aesthetics and Lab Credits: 3
- FSRM 372-372L - Trending and Buying and Lab Credits: 3
- FSRM 381 - Professional Behavior at Work Credits: 3
- FSRM 462 - Retail Management Credits: 3
- FSRM 472-472L - Merchandising and Lab Credits: 3
- FSRM 473-473L - Global Sourcing and Lab Credits: 3
- FSRM 480 - Travel Studies Credits: 1-5 (1 credit required)
- FSRM 490 - Seminar (COM) Credits: 3
- FSRM 495 - Practicum (COM) Credits: 3
- FSRM 477 - Current Issues in the Workplace Credits: 1
- LDR 210 - Foundations of Leadership Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 62 Credit Hours |
| Electives** | 24 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Fashion Studies and Retail Merchandising (B.S.)

## Food Science (B.S.)

### Program Coordinator/Contact

Joseph Cassady, Interim Department Head
Department of Dairy and Food Science
Alfred Dairy Science Hall 136
605-688-4116

### Program Information

Food Science is the study of the science behind and involved with the production, preservation, packaging, and distribution of safe, wholesome, and nutritious foods. Students will develop a knowledge base related to the basic physical, microbiological, chemical and engineering sciences as they are applied to foods. These sciences are utilized to study the nature of foods, the causes of food deterioration and spoilage, and principles of food preservation. This skill set is also employed by the scientists to develop and create approaches for the generation of new food products to assist in feeding the world through provision of foods that provide proper nutrition with acceptable taste and texture while maintaining affordability of the product. Graduates with a degree in Food Science are well prepared for professional positions within the food industry or for further graduate study in Food Science.

### Student Learning Outcomes

Upon completion of the Food Science curriculum a graduate should be able to demonstrate the following:

- An understanding of the chemistry underlying the properties and reactions of various food components.
- A practical proficiency in laboratory techniques associated with the determination of qualitative and quantitative analytical data related to physical, chemical, and biological aspects of foods and food ingredients.
- An understanding of microbial growth and survival as it impacts the safety, preservation, and spoilage of food systems.
- An understanding of unit operations, process control and sanitation protocols as they relate to the production and preservation of a food.
- An ability to apply statistical principles to the control and assurance of quality in the production of food products.
- An understanding of the laws and regulations governing the manufacture and sale of food products.
- An ability to utilize verbal and written communication skills effectively in a group environment.
- An ability to apply critical thinking and reasoning skills while ethically applying scientific principles to resolving issues associated with foods and food systems.

### Course Delivery Format

The program offers instruction through lecture, discussion, laboratory exercises and practical training.

### Requirements for Food Science Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3

- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 or ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3 and ABS 203 - Global Food Systems [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- ABS 203 - Global Food Systems [SGR #3] Credits: 3 (SGR 3)
- FS 101 - Introduction to Food Science Credits: 3 (Major Requirement)
- FS 251 - Food Safety and Quality Management Systems Credits: 3 (Major Requirement)
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3 (Major Requirement)
  or DS 231 - Dairy Foods Credits: 3 (Major Requirement)

### Major Requirements

- AGEC 366 - Food Law Credits: 3
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
  or DS 231 - Dairy Foods Credits: 3
- AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3
- DS 119 - First Year Seminar – Dairy and Food Science Credits: 2
- DS 421-421L - Dairy Plant Management and Lab Credits: 4
- DS 490 - Seminar (COM) Credits: 1
- DS 496 - Field Experience Credits: 3-12 (3 credits required)
- FS 101 - Introduction to Food Science Credits: 3
- FS 251 - Food Safety and Quality Management Systems Credits: 3
- FS 341-341L - Applied Food Science and Lab Credits: 4
- FS 351-351L - Principles of Food Processing and Lab Credits: 3
- FS 400-400L/500-500L - Food Chemistry and Analysis and Lab Credits: 5
- FS 451-451L/551-551L - New Food Product Development and Lab Credits: 4
- FS 494 - Internship (COM) Credits: 1-3 (3 credits required)
  or FS 498 - Undergraduate Research/Scholarship (COM) Credits:1-6 (3 credits required)
- MICR 311-311L - Food Microbiology and Lab Credits: 4
- NUTR 315 - Human Nutrition (COM) Credits: 3

### Supporting Coursework

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5
  or MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 51 Credit Hours |
| Supporting Coursework | 35-36 Credit Hours |
| Electives** | 1-2 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Food Science (B.S.)

## French Studies (B.A.)

### Program Coordinator/Contact

Marie-Pierre Caquot Baggett, Professor of French
School of American and Global Studies
Wagner Hall 111, Box 2275
605-688-4278

### Program Information

The French Studies program allows students to learn a language, gain intercultural competence, and communicate effectively and appropriately with all people. Studying French provides models to deal with cultural differences that are applicable in any part of the world, including the U.S Students engage with the contemporary norms that structure societies' politics, religions, identities, and workplaces, as well as with the heritage and diversity of cultures in the French-speaking world. Students also participate in internships, study abroad, and experiential learning opportunities both locally and internationally. Courses in the French Studies program provide students with the flexibility to pair with another major, and with the skills to function and communicate effectively in any environment, and ultimately, to work competitively in the global marketplace.

### Student Learning Outcomes

Upon the completion of the French major, students should be able to:

- Speak, read and write French at the Intermediate-High or Advanced level, developing solid competence in the language needed for everyday life and advanced narrative skills in the past, present, and future.
- Demonstrate understanding of and growth in the skills required for intercultural communication and competence and life-long learning.
- Identify the cultural perspectives of the French-speaking world's civilizations and their cultural products, such as literatures, arts, institutions, pop cultures, etc. and compare the cultural frames that determine everyday life in French-speaking cultures and the U.S.
- Adapt behavior to a variety of cultural contexts through critical analysis of cultural frames.
- Articulate the value of their language and cultural studies and apply this knowledge in future employment.

### Academic Requirements

Students with previous knowledge of the language must take the placement test and register for an appropriate course. The program requires all French courses must be passed with a grade of "C" or better.

### Course Delivery Format

Most courses in the French major are offered face-to-face on campus. Some upper-division courses are offered as part of the French cooperative program with NSU and USD and they use different types of distance delivery, including simultaneous television (DDN) and online delivery.

### Requirements for French Studies Major: 120 Credits

*Bachelor of Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts specifications.

### Major Requirements

- FREN 102 - Introductory French II (COM) [SGR #4] Credits: 4
- FREN 201 - Intermediate French I (COM) [SGR #4] Credits: 3
- FREN 202 - Intermediate French II (COM) [SGR #4] Credits: 3
- FREN 310 - French Language Skills (COM) Credits: 3
- FREN 333 - Topics in Francophone Culture (COM) Credits: 3
- FREN 433 - French Culture and Civilization Credits: 3
- GLST 489 - Capstone Intercultural Competencies Credits: 3 (Capstone)

### Language, Culture, and Professional Skills

Credits: 14

- FREN 211 - Intermediate Oral Practice I Credits: 2-3
- FREN 350 - Business Communications in French (COM) Credits: 3
- FREN 353 - Exploring Literature in French (COM) Credits: 3
- FREN 385 - Travel Study Abroad Francophone (COM) Credits: 1-6
- FREN 392 - Topics (COM) Credits: 1-3
- FREN 491 - Independent Study (COM) Credits: 1-3
- FREN 492 - Topics (COM) Credits: 1-3
- FREN 496 - Field Experience (COM) Credits: 1-6

Note: Majors are strongly encouraged to study abroad in a French-speaking country.

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

### Bachelor of Arts

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 36 Credit Hours |
| Electives** | 51 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- French Studies (B.A.)

## French Studies (B.A.) - Teaching Specialization

### Program Coordinator/Contact

Marie-Pierre Caquot Baggett, Professor of French
School of American and Global Studies
Wagner Hall 111, Box 2275
605-688-4278

### Program Information

The French Teaching specialization at SDSU consists of the same aims and content as the French B.A. In addition, teaching candidates receive training in the most current professional standards and methods for teaching excellence in French in the cultures from the French-speaking world. Experiential learning course offerings and service-learning sites complement the program with hands-on teaching opportunities. Program graduates typically secure teaching positions domestically and abroad in public and private schools, immersion classroom, or they receive further training in order to teach English as a Second Language and prepare for University-level teaching.

### Student Learning Outcomes

Upon the completion of the French major, students should be able to:

- Speak, read and write French at the Intermediate-High or Advanced level, developing solid competence in the language needed for everyday life and advanced narrative skills in the past, present, and future.
- Demonstrate understanding of and growth in the skills required for intercultural communication and competence and life-long learning.
- Identify the cultural perspectives of the French-speaking world's civilizations and their cultural products, such as literatures, arts, institutions, pop cultures, etc. and compare the cultural frames that determine everyday life in French-speaking cultures and the U.S.
- Adapt behavior to a variety of cultural contexts through critical analysis of cultural frames.
- Articulate the value of their language and cultural studies and apply this knowledge in future employment.

### Academic Requirements

- Students with previous knowledge of the language must take the placement test and register for an appropriate course. The program requires all French courses must be passed with a grade of "C" or better.
- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's K-12 preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Most courses in the French major are offered face-to-face on campus. Some upper-division courses are offered as part of the French cooperative program with NSU and USD and they use different types of distance delivery, including simultaneous television (DDN) and online delivery.

### Requirements for French Major - Teaching Specialization: 120 Credits

*Bachelor of Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts specifications.

### Major Requirements

- FREN 102 - Introductory French II (COM) [SGR #4] Credits: 4
- FREN 201 - Intermediate French I (COM) [SGR #4] Credits: 3
- FREN 202 - Intermediate French II (COM) [SGR #4] Credits: 3
- FREN 310 - French Language Skills (COM) Credits: 3
- FREN 333 - Topics in Francophone Culture (COM) Credits: 3
- FREN 433 - French Culture and Civilization Credits: 3
- GLST 489 - Capstone Intercultural Competencies Credits: 3

### Language, Culture, and Professional Skills

Select from the following courses. Credits: 14

- FREN 211 - Intermediate Oral Practice I Credits: 2-3
- FREN 350 - Business Communications in French (COM) Credits: 3
- FREN 353 - Exploring Literature in French (COM) Credits: 3
- FREN 385 - Travel Study Abroad Francophone (COM) Credits: 1-6
- FREN 392 - Topics (COM) Credits: 1-3
- FREN 491 - Independent Study (COM) Credits: 1-3
- FREN 492 - Topics (COM) Credits: 1-3
- FREN 496 - Field Experience (COM) Credits: 1-6

Note: Majors are strongly encouraged to study abroad in a French-speaking country.

### Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3 (College Requirement)
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- MFL 420 - K-12 Foreign Language Methods (COM) Credits: 3 (Teaching Content Methods Requirement) (Capstone)
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 36 Credit Hours |
| Teaching Specialization Requirements | 34 Credit Hours |
| Electives** | 17 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- French Studies (B.A.) - Teaching Specialization

## General Studies (A.A.)

### Program Coordinator/Contact

Jessica Lewis, Coordinator
College of Arts, Humanities and Social Sciences
Wagner Hall 251
605-688-4723

Randi Anderson, Advisor
Pugsley Center 303M
605-688-5191

### Program Information

The Associate of Arts degree in General Studies reflects SDSU's Land-Grant mission through accessibility and student-centered education. The program provides a foundation of general education courses at the university level, supporting bachelor's degree programs, lifelong learning, and entry-level careers. The program provides excellent undergraduate instruction and affords students' the ability to shape their curriculum to meet personal and professional goals. The program strives to graduate students who are knowledgeable across a variety of fields. Graduates think critically and creatively, problem-solve efficiently, speak effectively, write clearly, and possess awareness of issues regarding diversity and inclusion.

### Student Learning Outcomes

Graduates from the Associate of Arts in of General Studies will be able to:

- Apply fundamental mathematical and scientific processes to break down complex problems into solvable sub-problems.
- Demonstrate knowledge of contributions made by individuals from diverse or underrepresented groups to one's local, national or global communities.
- Communicate effectively in written and oral formats demonstrating critical or creative thinking.
- Analyze and compare scholarly sources to develop informed conclusions or judgments.
- Integrate available and reliable information to develop meaningful solutions.
- Articulate the development of their academic or career goals.

### Course Delivery Format

Coursework for the program is delivered at multiple locations including the Brookings Main Campus, online, or through an attendance center.

### Requirements for General Studies Major: 60 Credits

*Associate of Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 3-6*
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 3-6*

- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 3-6*

*Three additional credits selected from approved list of courses for Goals #3, #4, or #6 to reach 24 System General Education Requirements for the Associate Degree.

### Electives

### Total Required Credits: 60

### Summary of Program Requirements

**Associate of Arts**

| | |
|---|---|
| System General Education Requirements | 24 Credit Hours |
| Electives | 36 Credit Hours |

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- General Studies (A.A.)

## General Studies (B.G.S.)

### Program Coordinator/Contact

Aimee Maher, Student Services Facilitator
Continuing and Distance Education
West Hall 121
605-688-4154

### Program Information

The Bachelor of General Studies program through the College of Arts, Humanities and Social Sciences is designed for adult and returning students who have already completed significant college credit (at least 60 credits) and want to complete a baccalaureate degree. The Bachelor of General Studies offers students the flexibility to select coursework from a variety of focus areas: agriculture/natural resource management, allied health, business, education, engineering, fine arts, humanities, social science, science/mathematics, technology, and wellness.

### Student Learning Outcomes

Each graduate completing the Bachelor of General Studies will:

- Synthesize key findings from various resources, articulate a position, and draw conclusions.
- Evaluate available print and electronic resources for reliability and usefulness.
- Apply knowledge to address a problem and provide a solution or explain a new understanding of the problem.
- Evaluate the importance of lifelong learning in relation to their life and professional goals.
- Integrate knowledge across various academic disciplines.
- Consider the nature and diversity of individuals, organizations, cultures and societies.

### Admission Requirements

For SDSU admission requirements, visit www.sdstate.edu/admissions. Potential students must have a minimum of 60 credits completed for acceptance to the General Studies program. Potential students should apply online and connect with the program contact to ensure that the program will be a good fit for them, as well as have any transcripts evaluated. Once accepted, students will work closely with their advisor to prepare their degree completion plan.

### Course Delivery Format

Adult and returning students will have the ability to complete coursework towards the Bachelor of General Studies online, on-campus, or through an attendance center.

### Requirements for General Studies Major: 120 Credits

*Bachelor of General Studies*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### Major Requirements

- GS 490 - Seminar (COM) Credits: 3

### Focus Areas

Completion of 15 credits in at least 3 of the designated General Studies focus areas. 20 credits or more of the focus area must be numbered 300 or above. Credits: 45

- Agriculture/Natural Resource Management (Courses such as animal science, plant science, wildlife and fisheries)
- Allied Health (Courses such as anatomy, athletic training, health sciences)
- Business (Courses such as business administration, consumer affairs, economics, ag econ, entrepreneurial studies)
- Education (Courses such as early childhood education, art education, ag education)
- Engineering (Courses such as construction management, physics, architecture, and engineering)
- Fine Arts (Courses such as art, art history, interior design, theater, music)
- Humanities (Courses such as foreign languages, English, religion, philosophy, mass and speech communication)
- Social Science (Courses such as anthropology, human development, political science, psychology, sociology)
- Science/Mathematics (Courses such as biology, chemistry, food science, mathematics)
- Technology (Courses such as agricultural systems technology, computer science, electrical engineering technology)
- Wellness (Courses such as health, physical education and recreation, wellness)

### Electives

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of General Studies**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| Major Requirements | 48 Credit Hours |
| Electives** | 42 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- General Studies (B.G.S.)

## Geographic Information Sciences (B.S.)

### Program Coordinator/Contact

Bob Watrel, Department Head
Department of Geography and Geospatial Sciences
109 Wecota Hall
605-688-4511

### Program Information

Geographic Information Science concerns the use of geographic information and data acquired from satellites and airborne platforms, and from ground based measurements and surveys of human activity and the environment. Geographic Information Science students learn how to work with geospatial data to study relationships, patterns, and trends. In the U.S. the explosion of geospatial data and their increasing use in business, government, and people's everyday lives has led to a growing demand for qualified Geographic Information Science graduates. Geospatial science is developing rapidly, associated with developments in mobile, satellite and airborne remote sensing, computational, and big data technologies.

### Student Learning Outcomes

Graduates with a major in Geographic Information Sciences will:

- Demonstrate foundational and specialized knowledge in both the physical and human sciences and their interconnectedness at local, regional, and global scales.
- Interpret the ethical consequences of global issues concerning the environment to strengthen commitment to local, national, and global citizenship.
- Demonstrate proficiency in the application of appropriate geographical technologies and techniques to address issues in the physical and/or human sciences.
- Communicate geographic ideas clearly and effectively (e.g., maps, writing, oral presentations, posters, photos, flowcharts, tables, graphs, and illustrations).
- Apply observations from laboratory and/or field experiences to analyze problems and offer solutions.
- Demonstrate the ability to collect, organize, analyze, and synthesize information about people, places, and environments in a spatial-temporal context.
- Explore complex local, regional, and global issues using a geographical perspective to formulate questions and draw informed conclusions that are based on critical scientific analysis and interpretation of information.
- Demonstrate openness to new perspectives and diverse others, evaluate the complexity inherent to multiple perspectives, and demonstrate the ability to reassess their personal perspective when appropriate.

### Academic Requirements

Students must earn at least a "C" in each course used to meet the major requirements.

### Course Delivery Format

The Geographic Information Sciences program includes lecture, discussion, laboratory research, fieldwork, and travel, with limited online coursework.

### Requirements for Geographic Information Sciences Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: GEOG 200 - Introduction to Human Geography (COM) [SGR #3] Credits: 3 (Major Requirement) or GEOG 210 - World Regional Geography (COM) [SGR #3] Credits: 3 (Major Requirement) and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4 (Major Requirement) and GEOG 132-132L - Physical Geography: Natural Landscapes and Lab (COM) [SGR #6] Credits: 4 (Major Requirement)

### Department of Geography and Geospatial Sciences Requirements

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details.

### Major Requirements

- GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4
- GEOG 132-132L - Physical Geography: Natural Landscapes and Lab (COM) [SGR #6] Credits: 4
- GEOG 200 - Introduction to Human Geography (COM) [SGR #3] Credits: 3
- GEOG 210 - World Regional Geography (COM) [SGR #3] Credits: 3
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- GEOG 421-521 - Research Methods in Geography Credits: 3
- GEOG 447-547 - Geography of the Future (COM) Credits: 3 (Capstone) or GEOG 454-554 - Sustainable Communities Credits: 3 (Capstone)
- GEOG 484-484L/584-584L - Remote Sensing and Lab (COM) Credits: 3

### Select from the following

Select one of the following options - GIS Analyst or GIS Developer. Credits: 15

### GIS Analyst Option

Credits: 15

- GEOG 473-473L/573-573L - GIS: Data Creation and Integration and Lab (COM) Credits: 3
- GEOG 474-474L/574-574L - GIS: Vector and Raster Modeling and Lab Credits: 3
- GEOG 475-475L/575-575L - GIS Applications and Lab Credits: 3

### Select from the following

Select six credits from the following list.

- GEOG 270 - Introduction to Small Unmanned Aircraft Systems Credits: 3
- GEOG 383-383L - Cartography and Lab Credits: 3
- GEOG 471-571 - Introduction to GIS Programming Credits: 3
- GEOG 476-476L/576-576L - Web GIS and Lab Credits: 3
- GEOG 477-477L/577-577L - Spatial Databases and Lab Credits: 3
- GEOG 483-483L/583-583L - Aerial Remote Sensing and Lab Credits: 3
- GEOG 485-485L/585-585L - Quantitative Remote Sensing and Lab Credits: 3

### GIS Developer Option

Credits: 15

- GEOG 471-571 - Introduction to GIS Programming Credits: 3
- GEOG 476-476L/576-576L - Web GIS and Lab Credits: 3
- GEOG 477-477L/577-577L - Spatial Databases and Lab Credits: 3

### Select from the following

Select six credits from the following list.

- GEOG 270 - Introduction to Small Unmanned Aircraft Systems Credits: 3
- GEOG 383-383L - Cartography and Lab Credits: 3
- GEOG 473-473L/573-573L - GIS: Data Creation and Integration and Lab (COM) Credits: 3
- GEOG 474-474L/574-574L - GIS: Vector and Raster Modeling and Lab Credits: 3
- GEOG 475-475L/575-575L - GIS Applications and Lab Credits: 3
- GEOG 483-483L/583-583L - Aerial Remote Sensing and Lab Credits: 3
- GEOG 485-485L/585-585L - Quantitative Remote Sensing and Lab Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

For those seeking technical careers in GISc, these additional courses are suggested:

- CEE 106-106L - Elementary Surveying and Lab Credits: 3, 1
- CEE 434-534 - Hydrology Credits: 3
- CSC 105 - Introduction to Computers (COM) Credits: 3
- CSC 150 - Computer Science I (COM) Credits: 3
- CSC 205 - Advanced Computer Applications (COM) Credits: 3
- CSC 474-574 - Computer Networks Credits: 3
- GE 121 - Engineering Design Graphics I Credits: 1
- GEOG 384-384L - Advanced Cartography and Lab Credits: 3
- GEOG 485-485L/585-585L - Quantitative Remote Sensing and Lab Credits: 3
- INFO 101 - Introduction to Informatics [SGR #6] Credits: 3
- MATH 115 - Precalculus (COM) [SGR #5] Credits: 5
- MATH 120 - Trigonometry (COM) [SGR #5] Credits: 3

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements* | 30 Credit Hours |
| Department of Geography and Geospatial Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 41 Credit Hours |
| Electives** | 53 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Geographic Information Sciences (B.S.)

## Geography (B.A./B.S.)

### Program Coordinator/Contact

Bob Watrel, Department Head
Department of Geography and Geospatial Sciences
109 Wecota Hall
605-688-4511

### Program Information

Geography is the scientific study of the distribution of both physical and human features of the Earth's surface. Geographers seek to describe, relate and explain the natural and cultural phenomena that distinguish places around the world. Geographers focus upon "where" and "why" questions concerning the global environment. Geography also functions as a bridge between the natural sciences; its perspective on the location of phenomena makes it unique among the academic disciplines. The process of change is a fundamental theme in geography and the examination of how humankind modifies the Earth is a continual emphasis. The study of geography is thus of vital concern to all citizens and provides graduates with numerous career opportunities in business, education, and government.

The Geography program is designed to provide the student with a general education as well as a concentration in the major field of study. The faculty recommends that majors take several courses in disciplines closely related to their specific area of interest in geography. Those interested in physical geography might register for associated courses in physics, agricultural sciences, botany or other allied disciplines. If one is interested in human geography, course work in sociology, economics, history, political science or foreign language or some other social science might be considered. For technical geography, computer science and mathematics courses are recommended. Qualified students may also enhance their academic experience with participation in the Undergraduate Scholars Program.

Program Emphases

- The Planning Emphasis stresses research techniques and is oriented toward future employment in governmental, industrial, military, or planning positions.
- The Environmental Planning and Management Emphasis is designed to prepare students for careers in governmental, industrial, managerial, recreational areas, and commercial corporations.

### Student Learning Outcomes

Graduates with a major in Geography will:

- Demonstrate foundational and specialized knowledge in both the physical and human sciences and their interconnectedness at local, regional, and global scales.
- Interpret the ethical consequences of global issues concerning the environment to strengthen commitment to local, national, and global citizenship.
- Demonstrate proficiency in the application of appropriate geographical technologies and techniques to address issues in the physical and/or human sciences.
- Communicate geographic ideas clearly and effectively (e.g., maps, writing, oral presentations, posters, photos, flowcharts, tables, graphs, and illustrations).
- Apply observations from laboratory and/or field experiences to analyze problems and offer solutions.
- Demonstrate the ability to collect, organize, analyze, and synthesize information about people, places, and environments in a spatial-temporal context.
- Explore complex local, regional, and global issues using a geographical perspective to formulate questions and draw informed conclusions that are based on critical scientific analysis and interpretation of information.

### Academic Requirements

Students must complete a minimum of 18 upper division credits in major courses and earn at least a "C" in each course used to meet the major requirements.

### Course Delivery Format

Geography is not only a classroom subject but one that also includes laboratory research, fieldwork, and travel, as well as limited online coursework.

### Requirements for Geography Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### Department of Geography and Geospatial Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Major Requirements - Bachelor of Arts

- GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4
- GEOG 132-132L - Physical Geography: Natural Landscapes and Lab (COM) [SGR #6] Credits: 4
- GEOG 200 - Introduction to Human Geography (COM) [SGR #3] Credits: 3
- GEOG 210 - World Regional Geography (COM) [SGR #3] Credits: 3
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
  or GEOG 383-383L - Cartography and Lab Credits: 3
- GEOG 421-521 - Research Methods in Geography Credits: 3
  or HIST 480 - Historical Methods and Historiography (COM) Credits: 3
- GEOG 447-547 - Geography of the Future (COM) Credits: 3 (Capstone)
  or GEOG 454-554 - Sustainable Communities Credits: 3 (Capstone)

### Regional Geography

Select six credits (one GEOG and one other prefix) from the following. Credits: 6

- FREN 385 - Travel Study Abroad Francophone (COM) Credits: 1-6
- FREN 433 - French Culture and Civilization Credits: 3
- GEOG 317 - Geography of Africa Credits: 3
- GEOG 320 - Regional Geography: (COM) Credits: 3
- GEOG 430-530 - Geography of Europe Credits: 3

- GER 380 - Deutschland Heute (COM) Credits: 3
- GER 435 - German Culture History (COM) Credits: 3
- HIST 476 - History of South Dakota (COM) Credits: 3
- POLS 447 - Latin American Politics (COM) Credits: 3
- SPAN 433 - Spanish Civilization and Culture (COM) Credits: 3
- SPAN 435 - Latin American Civilization and Culture Credits: 3

### Select from the following

Select twelve credits from the following three categories - Political and Cultural Geography, Economic Geography and Social Geography, and Environmental Geography. Select two of the categories and complete one GEOG and one other discipline in each of the two chosen categories. Credits: 12

### Political and Cultural Geography

- GEOG 353 - Geography of Religion (COM) Credits: 3
- GEOG 405 - Historical Geography Credits: 3
- GEOG 459-559 - Political Geography (COM) Credits: 3
- GEOG 460-560 - Geopolitics Credits: 3
- GLST 480 - Ethics of Globalization Credits: 3
- HIST 368 - History and Culture of the American Indian (COM) Credits: 3
- HIST 378 - Social and Cultural History of the US Credits: 3
- HIST 462 - Formation of Federal Indian Policy Credits: 3
- POLS 341 - Europe Democratic Government (COM) Credits: 3
- POLS 350 - International Relations (COM) Credits: 3
- POLS 458 - Democracy and Authoritarianism (COM) Credits: 3
- SPAN 476 - 19th and 20th Century Spain Credits: 3
- SPAN 477 - 19th and 20th Century Latin America Credits: 3

### Economic Geography and Social Geography

- ECON 413-513 - Macroeconomic Policy Credits: 3
- ECON 433-533 - Public Finance (COM) Credits: 3
- ECON 440-540 - International Economics Credits: 3
- GEOG 351 - Economic Geography Credits: 3
- GEOG 425-525 - Population Geography Credits: 3
- GEOG 454-554 - Sustainable Communities Credits: 3
- GEOG 461-561 - Urban Geography Credits: 3
- POLS 360 - Politics of Inequality (COM) Credits: 3
- SOC 350 - Race and Ethnic Relations (COM) Credits: 3
- SOC 440-540 - Urban Sociology (COM) Credits: 3
- SOC 462-562 - Population Studies (COM) Credits: 3

### Environmental Geography

- AGEC 479-579 - Agricultural Policy Credits: 3
- ECON 472-572 - Resource and Environmental Economics (COM) Credits: 3
- GEOG 365 - Land Use and Planning Credits: 3
- GEOG 415-515 - Environmental Geography and Sustainability Credits: 3
- HIST 409-509 - Environmental History of the U.S. (COM) Credits: 3
- SOC 245 - Environment and Society Credits: 3

### Major Requirements - Bachelor of Science

- GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4
- GEOG 132-132L - Physical Geography: Natural Landscapes and Lab (COM) [SGR #6] Credits: 4
- GEOG 200 - Introduction to Human Geography (COM) [SGR #3] Credits: 3
- GEOG 210 - World Regional Geography (COM) [SGR #3] Credits: 3
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
  or GEOG 383-383L - Cartography and Lab Credits: 3
  or GEOG 483-483L/583-583L - Aerial Remote Sensing and Lab Credits: 3
- GEOG 421-521 - Research Methods in Geography Credits: 3
- GEOG 447-547 - Geography of the Future (COM) Credits: 3 (Capstone)
  or GEOG 454-554 - Sustainable Communities Credits: 3 (Capstone)
- GEOG Electives Credits: 6
- GEOG 200-level and above (Maximum of 3 credits of GEOG 494 - Internship (COM)) Credits: 6

### Advanced Physical Geography and Human-Earth Relationships

Select three credits from the following courses. Credits: 3

- GEOG 337 - Atmospheric Sciences Credits: 3
- GEOG 339 - Geomorphology Credits: 3
- GEOG 363 - Rural Geography Credits: 3
- GEOG 365 - Land Use and Planning Credits: 3
- GEOG 410-410L/510-510L - Soil Geography and Land Use Interpretation and Lab Credits: 2, 1
- GEOG 415-515 - Environmental Geography and Sustainability Credits: 3

### Regional Geography and Advanced Human Geography

Select three credits from the following courses. Credits 3

- GEOG 212 - Geography of North America (COM) [SGR #3] Credits: 3
- GEOG 219 - Geography of South Dakota [SGR #3] Credits: 3
- GEOG 317 - Geography of Africa Credits: 3
- GEOG 320 - Regional Geography: (COM) Credits: 3
- GEOG 351 - Economic Geography Credits: 3
- GEOG 353 - Geography of Religion (COM) Credits: 3
- GEOG 405 - Historical Geography Credits: 3
- GEOG 425-525 - Population Geography Credits: 3
- GEOG 430-530 - Geography of Europe Credits: 3
- GEOG 459-559 - Political Geography (COM) Credits: 3
- GEOG 460-560 - Geopolitics Credits: 3
- GEOG 461-561 - Urban Geography Credits: 3
- GEOG 464 - Local and Regional Planning Credits: 3
- HIST 409-509 - Environmental History of the U.S. (COM) Credits: 3
- POLS 341 - Europe Democratic Government (COM) Credits: 3
- POLS 447 - Latin American Politics (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

| | |
|---|---|
| **Bachelor of Arts** | |
| System General Education Requirements* | 30 Credit Hours |
| Department of Geography and Geospatial Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 41 Credit Hours |
| Electives** | 40 Credit Hours |
| **Bachelor of Science** | |
| System General Education Requirements* | 30 Credit Hours |
| Department of Geography and Geospatial Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 41 Credit Hours |
| Electives** | 44 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Geography (B.A.)
- Geography (B.S.)

## German (B.A.)

### Program Coordinator/Contact

Eckhard Rölz, Professor of German
School of American and Global Studies
Wagner Hall 107, Box 2275
605-688-4276

### Program Information

A German B.A. at SDSU opens the door to a world of art, music, technology, psychology, politics, medicine, and many other fields. In today's interconnected world, many professions cross international borders and bring together people through German, the most widely spoken language in Europe.

A German B.A. prepares students to confidently use the German language in any environment. It includes courses in language, culture, pop culture, film and literature of German speaking countries and promotes intercultural competence so graduates can navigate cultural differences with ease.

Language scholarships are made available to encourage students to take advantage of multiple opportunities, both within the school and through our International Affairs Office, to study or do an internship abroad.

The major offers flexibility and can easily be added to another major.

### Student Learning Outcomes

Upon the completion of the German major, students should be able to:

- Speak, read and write German at the Intermediate-High or Advanced level, developing solid competence in the language needed for everyday life and advanced narrative skills in the past, present, and future.
- Demonstrate understanding of and growth in the skills required for intercultural communication and competence and life-long learning.
- Identify the cultural perspectives of the German-speaking world's civilizations and their cultural products, such as literatures, arts, institutions, pop cultures, etc. and compare the cultural frames that determine everyday life in German-speaking cultures and the U.S.
- Adapt behavior to a variety of cultural contexts through critical analysis of cultural frames.
- Articulate the value of their language and cultural studies and apply this knowledge in future employment.

### Academic Requirements

There are no application requirements to enroll as a German major. However, students with previous knowledge of the language must take the placement test and register for an appropriate course. Additionally, all the courses for the major must be passed with a grade of "C" or better.

### Course Delivery Format

Most courses in the German major are offered face-to-face on campus. Some upper-division courses are offered as part of the German cooperative program with USD and they use different types of distance delivery, including simultaneous television (DDN) and online delivery.

### Requirements for German Major: 120 Credits

*Bachelor of Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts specifications.

### Major Requirements

- GER 102 - Introductory German II (COM) [SGR #4] Credits: 4
- GER 201 - Intermediate German I (COM) [SGR #4] Credits: 3
- GER 202 - Intermediate German II (COM) [SGR #4] Credits: 3
- GER 310 - Practical German Language Skills (COM) Credits: 3
- GLST 489 - Capstone Intercultural Competencies Credits: 3 (Capstone)

### Select from the following

Select at least 21 credits of upper-division coursework. The following is a suggested sequence. All majors are required to select at least one course from each of the categories below. Majors are also strongly encouraged to study abroad in a German-speaking country. MFL courses with content in Teaching Methods, K12 Foreign Language Methods, or Linguistics courses can also fulfill credits in the Elective requirements. Credits: 21

### Language and Professional Skills Electives

Minimum 1 from this section.

- GER 330 - Reading and Writing for Communication (COM) Credits: 3
- GER 350 - German for Commerce (COM) Credits: 3
- GER 444-544 - German Culture and Language in Translation (COM) Credits: 3
- GER 492 - Topics (COM) Credits: 2-3
- GER 494 - Internship (COM) Credits: 1-3
- GER 496 - Field Experience (COM) Credits: 1-6

### Literature Culture and Civilization Electives

Minimum 1 from this section.

- GER 353 - Introduction to German Literature (COM) Credits: 3
- GER 380 - Deutschland Heute (COM) Credits: 3
- GER 435 - German Culture History (COM) Credits: 3
- GER 454 - Survey of German Literature II (COM) Credits: 3
- GER 455 - German Film (COM) Credits: 3
- GER 492 - Topics (COM) Credits: 2-3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 37 Credit Hours |
| Electives** | 50 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- German (B.A.)

## German (B.A.) - Teaching Specialization

### Program Coordinator/Contact

Eckhard Rölz, Professor of German
School of American and Global Studies
Wagner Hall 107, Box 2275
605-688-4276

### Program Information

The German Teaching specialization at SDSU consists of the same aims and content as the German B.A. In addition, teaching candidates are given training in the most current professional standards and methods for teaching excellence in Germanic language and cultures. Former candidates have gone on to teach in public and private schools and have gone for further training in order to teach English as a Second Language and prepare for University-level teaching.

### Student Learning Outcomes

Upon the completion of the German major, students should be able to:

- Speak, read and write German at the Intermediate-High or Advanced level, developing solid competence in the language needed for everyday life and advanced narrative skills in the past, present, and future.
- Demonstrate understanding of and growth in the skills required for intercultural communication and competence and life-long learning.
- Identify the cultural perspectives of the German-speaking world's civilizations and their cultural products, such as literatures, arts, institutions, pop cultures, etc. and compare the cultural frames that determine everyday life in German-speaking cultures and the U.S.
- Adapt behavior to a variety of cultural contexts through critical analysis of cultural frames.
- Articulate the value of their language and cultural studies and apply this knowledge in future employment.

### Academic Requirements

- There are no application requirements to enroll as a German major. However, students with previous knowledge of the language must take the placement test and register for an appropriate course. All of the courses for the major must be passed with a grade of "C" or better.
- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's K-12 preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Most courses in the German major are offered face-to-face on campus. Some upper-division courses are offered as part of the German cooperative program with USD and they use different types of distance delivery, including simultaneous television (DDN) and online delivery.

### Requirements for German Major - Teaching Specialization: 120 Credits

*Bachelor of Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts specifications.

### Major Requirements

- GER 102 - Introductory German II (COM) [SGR #4] Credits: 4
- GER 201 - Intermediate German I (COM) [SGR #4] Credits: 3
- GER 202 - Intermediate German II (COM) [SGR #4] Credits: 3
- GER 310 - Practical German Language Skills (COM) Credits: 3
- MFL 420 - K-12 Foreign Language Methods (COM) Credits: 3 (Capstone)

### Select from the following

Select at least 21 credits of upper-division coursework. The following is a suggested sequence. All majors are required to select at least one course from each of the categories below. Majors are also strongly encouraged to study abroad in a German-speaking country. MFL courses with content in Teaching Methods, K12 Foreign Language Methods, or Linguistics courses can also fulfill credits in the Elective requirements. Credits: 21

### Language and Professional Skills Electives

Minimum 1 from this section.

- GER 330 - Reading and Writing for Communication (COM) Credits: 3
- GER 350 - German for Commerce (COM) Credits: 3
- GER 444-544 - German Culture and Language in Translation (COM) Credits: 3
- GER 492 - Topics (COM) Credits: 2-3
- GER 494 - Internship (COM) Credits: 1-3
- GER 496 - Field Experience (COM) Credits: 1-6

### Literature Culture and Civilization Electives

Minimum 1 from this section.

- GER 353 - Introduction to German Literature (COM) Credits: 3
- GER 380 - Deutschland Heute (COM) Credits: 3
- GER 435 - German Culture History (COM) Credits: 3
- GER 454 - Survey of German Literature II (COM) Credits: 3
- GER 455 - German Film (COM) Credits: 3
- GER 492 - Topics (COM) Credits: 2-3

### Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3 (College Requirement)
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- MFL 420 - K-12 Foreign Language Methods (COM) Credits: 3 (Teaching Content Methods Requirement) (Major Requirement) (Capstone)
- SEED 450 - Reading and Content Literacy (COM) Credits: 2

- SEED 456 - Capstone/Action Research Credits: 1

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 37 Credit Hours |
| Teaching Specialization Requirements | 31 Credit Hours |
| Electives** | 19 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- German (B.A.) - Teaching Specialization

## Global Studies (B.A.)

### Program Coordinator/Contact

Molly Enz, Professor of French & Global Studies Program Coordinator
School of American and Global Studies
Wagner Hall 109, Box 2275
605-688-6590

### Program Information

The Global Studies program allows students to investigate and evaluate critical global issues, hone verbal and written communication skills, and develop intercultural competence necessary essential in a global marketplace and society. The interdisciplinary global studies major combines a set of required core courses, a modern language series, an international study abroad or internship experience, and a flexible series of electives from disciplines such as economics, geography, history, modern languages, philosophy, political science, religion, and sociology. These components are designed to educate students in the complexity of the diverse cultural, environmental, political, religious and social interactions that comprise our modern world and to help them find solutions to the complex global challenges of the 21st century.

### Student Learning Outcomes

Upon completion of the global studies major, students will:

- Demonstrate a broad understanding of global issues, societies, civilizations, economies, and cultures through an interdisciplinary approach.
- Gain verbal and written communication skills essential in a global marketplace and society.
- Speak, read, understand, and write a foreign language at the intermediate-high level with solid narrative skills in the past, present, and future tenses.
- Demonstrate knowledge of intercultural competence and effectively bridge cultural differences and commonalities.
- Articulate the value of their global, cultural, and language studies and apply these skills to future employment.

### Course Delivery Format

Several courses required for the major may be offered online once a year.

### Requirements for Global Studies Major: 120 Credits

*Bachelor of Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3 and GEOG 210 - World Regional Geography (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: HIST 112 - World Civilizations II (COM) [SGR #4] Credits: 3 and REL 250 - World Religions (COM) [SGR #4] Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts specifications.

### Major Requirements

- ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- GEOG 210 - World Regional Geography (COM) [SGR #3] Credits: 3
- GLST 201 - Introduction to Global Studies [SGR #3] Credits: 3
- GLST 401 - Global Cultures and Identities Credits: 3
- GLST 489 - Capstone Intercultural Competencies Credits: 3 (Capstone)
- HIST 112 - World Civilizations II (COM) [SGR #4] Credits: 3
- POLS 253 - Current World Issues [SGR #3] Credits: 3
- REL 250 - World Religions (COM) [SGR #4] Credits: 3

### Modern Languages Requirement

Select Option 1, Option 2, or Option 3. Credits: 21

- Option 1 - 7 Credits in one language above the 202 level
- Option 2 - Qualified Waiver
  May be waived if examination shows the student has achieved a level of language learning equivalent to that of students who have completed 21 credit hours in a language and are able to use the language at an intermediate level (Intermediate Low according to the ACTFL scale). The School will evaluate the documentation. A student may be exempt from examination at SDSU if he or she has successfully completed one or more of the nationally administered tests showing an equivalent level of proficiency.
- Option 3 - Two Languages
  Global Studies students may, with the approval of the Coordinator of Global Studies and the Director of the School of American and Global Studies, design a Modern Language program that combines two languages. Students have the option of completing coursework in two languages offered at SDSU through the intermediate level (101, 102, 201, and 202) or combining one of the languages offered at SDSU through the 202 level with a less commonly taught language (e.g. Arabic, Chinese, Japanese, Russian, etc.). This option, including an assessment plan, must be approved in advance by the School.

### Global Studies Electives

In consultation with an Academic Advisor, students develop a plan of study using courses listed below for a total of 12 credits with at least:

- 2 different prefixes minimum
- No more than 6 credits per prefix
- No more than 3 credits of lower division (100- and 200-level) coursework

Other courses not listed below that have a significant global emphasis may also qualify but must be approved in advance. Credits: 12

### World Cultures/Societies

- ANTH 210 - Cultural Anthropology (COM) [SGR #3] Credits: 3
- ARTH 320 - Modern Art and Architecture Survey Credits: 3
- ARTH 490 - Seminar (COM) Credits: 1-3 (3 credits required)
- CMST 470 - Intercultural Communication (COM) Credits: 3
- ENGL 212 - World Literature II (COM) [SGR #4] Credits: 3
- EURS 301 - Topics in European Society Credits: 3
- FREN 333 - Topics in Francophone Culture (COM) Credits: 3

- FREN 433 - French Culture and Civilization Credits: 3
- GER 380 - Deutschland Heute (COM) Credits: 3
- GER 434 - German Civilization II (COM) Credits: 3
- GLST 125 - Introduction to Peace and Conflict Studies (COM) [SGR #4] Credits: 3
- GLST 280 - Developing Intercultural Competence Credits: 3
- GLST 392 - Topics (COM) Credits: 1-6 (3 credits required)
- GLST 435 - Global Film Credits: 3
- GLST/ PHIL 480 - Ethics of Globalization Credits: 3
- GLST 492 - Topics (COM) Credits: 3 (3 credits required)
- LAS 301 - Latin American Cultures Credits: 2-3 (3 credits required)
- LAS 302 - Latin American Societies Credits: 3
- REL/ PHIL 454 - Environmental Ethics (COM) Credits: 3
- SOC 350 - Race and Ethnic Relations (COM) Credits: 3
- SOC 462-562 - Population Studies (COM) Credits: 3
- SPAN 433 - Spanish Civilization and Culture (COM) Credits: 3
- SPAN 435 - Latin American Civilization and Culture Credits: 3
- SPAN 476 - 19th and 20th Century Spain Credits: 3
- SPAN 477 - 19th and 20th Century Latin America Credits: 3

### World Economics/Geography

- ABS 203 - Global Food Systems [SGR #3] Credits: 3
- ECON 405 - Comparative Economic Systems (COM) Credits: 3
- ECON 440-540 - International Economics Credits: 3
- ECON 460-560 - Economic Development Credits: 3
- FSRM 473-473L - Global Sourcing and Lab Credits: 3
- GEOG 320 - Regional Geography: (COM) Credits: 3
- GEOG 415-515 - Environmental Geography and Sustainability Credits: 3
- GEOG 425-525 - Population Geography Credits: 3
- GEOG 447-547 - Geography of the Future (COM) Credits: 3
- GEOG 459-559 - Political Geography (COM) Credits: 3
- GEOG 460-560 - Geopolitics Credits: 3
- LMNO 201 - Introduction to Leadership and Management of Nonprofit Organizations Credits: 3

### World History/Politics

- HIST 312 - History of Modern Asia (COM) Credits: 3
- POLS 341 - Europe Democratic Government (COM) Credits: 3
  or EURS 301 - Topics in European Society Credits: 3
- POLS 350 - International Relations (COM) Credits: 3
- POLS 447 - Latin American Politics (COM) Credits: 3
  or LAS 302 - Latin American Societies Credits: 3
- POLS 453 - American Foreign Policy (COM) Credits: 3
- POLS 458 - Democracy and Authoritarianism (COM) Credits: 3

### Cross Cultural Experience

Credits: 3

- Students may use a variety of travel experience courses in the catalog to fulfill this requirement for a cross-cultural experience outside of the United States that includes at least three credits of academic coursework and lasts at least 4 weeks.
- Students may select several shorter experiences that add up to four weeks total with approval from the department head. However, a semester or academic year abroad is highly recommended.
- Exceptions to the cross cultural experience must be pre-approved by the Coordinator of Global Studies and Director of the School of American and Global Studies.
- International students may petition for an exemption from the cross-cultural experience.
- Credits may be applied to another requirement when appropriate.
- Academic credit will be considered only from an accredited institution or through an international exchange program approved by SDSU.
- All students must have the approval before beginning the cross cultural experience.

### Electives

Taken as needed to complete any additional degree requirements.

**Total Required Credits: 120**

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 48 Credit Hours |
| Electives** | 39 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Global Studies (B.A.)

## Graphic Design (B.F.A.)

### Program Coordinator/Contact

Young Ae Kim, Graphic Design Program Coordinator
School of Design
Grove Hall 101
605-688-4103

### Program Information

The major in Graphic Design provides a comprehensive visual communication experience, including mobile technology, interface design, user experience design, animation and motion graphics, product/package design, brand identity design, data visualization design, and entrepreneurship. Graduates of the Graphic Design program will create professional portfolios, engage in real experiences working in industry, and have the opportunity to build strong connections with professionals nationally and internationally. South Dakota State University graduates are prepared to work in almost any field imaginable. A 12-credit visual arts core taken in conjunction with the graphic design sequence supports the degree and creates a foundation for success. Through taking the core and taking 6 additional ART, ARTH or ARTE courses, majors qualify for the Studio Arts Minor adding breadth and depth to the degree.

### Student Learning Outcomes

- Acquire core knowledge of graphic design practice.
- Demonstrate fluency in the visual vocabulary and technical skills relevant to Graphic Design – Typography, Grid systems across analog and digital media, visual narratives (photography, illustration, and type-as-image), and conceptualization of the work based on research.
- Imagine and articulate research, conceptualization, and varied solutions (generate effective ideas) to any problem.
- Display innovative synergies of media types across print, screen, packaging and emerging media and excel in one or several of the following Areas of Emphasis: Print, Packaging & Environmental, Interaction Design, Media Fluency, Motion.
- Demonstrate the ability to function as an effective member of a team.
- Demonstrate the professional awareness and physical preparation necessary to enter the design workspace.

### Academic Requirements

Graphic Design students must maintain at least a major GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of a "C" or better is required in all ART, ARTE, ARTH, GDES, DSGN, LA, ARCH, and ID courses. The Graphic Design degree requires the completion of internship experience during the summer between the junior and senior years and a travel studies course required during the summer any year between sophomore and senior years.

### Equipment and Supplies

The Graphic Design major requires students to own a laptop computer by the start of their sophomore year. The required computer specifications are listed on the SDSU website.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Graphic Design Major: 120 Credits

*Bachelor of Fine Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: ART 111 - Drawing I (COM) [SGR #4] Credits: 3 [S] and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Elective Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Fine Arts Requirements: 3

- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Fine Arts specifications.

### School of Design Requirements

- DSGN 110 - Creative Thinking Credits: 3 [S]
- DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3 [S]
- DSGN 452 - Design Capstone Credits: 2 [S]

### School of Design Electives

Select 6 credits from the list below. Students are required to complete six credits of elective shops, studios, or history courses in another School of Design discipline. Courses may not include GDES, ART, or ARTH prefix. Contact the School of Design advisor for approval of additional courses. Credits: 6 [S]

- ARCH 241 - Construction History [SGR #4] Credits: 3
- ARCH 442-542 - History of Ideas Credits: 3
- ID 112 - Drafting and Visualization Credits: 2
- ID 180 - Introduction to Interior Design Credits: 2
- ID 209 - Human Factors and Behavior Credits: 3
- ID 215 - Interior Design Materials Credits: 3
- ID 216 - Light and Color Credits: 3
- ID 341 - History of Interior Design I Credits: 3
- ID 342 - History of Interior Design II Credits: 3
- LA 101 - Ecology and the Built Landscape Credits: 3
- LA 132 - Seeing and Drawing the Land Credits: 3
- LA 231 - Digital Drafting and Mapping Credits: 2
- LA 232 - Digital Representation Credits: 2
- LA 242 - People and the Environment Credits: 3
- LA 251 - Site Analysis Credits: 4
- LA 252 - Site Planning Credits: 4

### Major Requirements

- GDES 101 - Computer Graphics Credits: 3
- GDES 203 - Animation Foundations I Credits: 3
- GDES 207 - Interactive Design I Credits: 3
- GDES 209 - Design Research Credits: 3
- GDES 216 - Typography Credits: 3
- GDES 304 - Motion Graphics Credits: 3
- GDES 307 - Interactive Design II Credits: 3
- GDES 310 - Branding Strategy and Identity Design Credits: 3
- GDES 312 - Sustainable Package Design Credits: 3
- GDES 401 - Professional Studio Practice Credits: 3
  or GDES 494 - Internship (COM) Credits: 1-3 (3 credits required)
- GDES 402 - Portfolio Design Credits: 3
- GDES 410 - Data Visualization Design Credits: 3
- GDES 415 - Publication Design Credits: 3
- GDES 417 - UX and UI Design Credits: 3 (Capstone)
- GDES 482 - Travel Studies Credits: 1-3 (3 credits required)
- GDES Elective: 3

### Major Electives

- ART (Art Studio) Elective: 3
- ART/GDES/MCOM (Animation, Photography or Video Media) Elective: 3

### Supporting Coursework

- ART 111 - Drawing I (COM) [SGR #4] Credits: 3 [S]
- ART 112 - Drawing II (COM) [SGR #4] Credits: 3 [S]
- ART 122 - Design II Color (COM) Credits: 3 [S]
- ARTH 211 - History of World Art I (COM) [SGR #4] Credits: 3 [AH]
- ARTH 212 - History of World Art II (COM) [SGR #4] Credits: 3 [AH]
- ARTH 312 - History of Graphic Design (COM) Credits: 3 [AH]
- ARTH 490 - Seminar (COM) Credits: 1-3 (History of Modern Design) (3 credits required) [AH]

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Notes

[AH] Art History B.F.A. Coursework
[S] Supportive B.F.A. Studies

### Summary of Program Requirements

**Bachelor of Fine Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements | 3 Credit Hours |
| School of Design Requirements* | 14 Credit Hours |
| Major Requirements | 54 Credit Hours |
| Supporting Coursework | 18 Credit Hours |
| Electives** | 1 Credit Hour |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Graphic Design (B.F.A.)

## History (B.A./B.S.)

### Program Coordinator/Contact

Charles Vollan, Associate Professor of History
School of American and Global Studies
West Hall Room 119, Box 510
605-688-4311

### Program Information

The history curriculum is adaptable to personal interests and needs, allowing students to explore the past and make connections to the present. The Bachelor of Arts or the Bachelor of Science degree in history prepares students for careers in various professional occupations, law, journalism, teaching, business, public service, library sciences, international work, historical research, and provides a necessary background for graduate work or other specialized training.

### Student Learning Outcomes

Students with a major in History will be able to:

- Demonstrate a knowledge of the most important historical events in U.S. History, including an in-depth study of issues facing minorities within the U.S.

- Demonstrate a knowledge of the most important historical events beyond the United States.
- Interpret the past in context; contextualize the past on its own terms.
- Develop a disciplined, skeptical stand and outlook on the world that demands evidence and a sophisticated use of information. This includes recognizing the difference between strong and weak arguments based on evidence, seeking use of proper citations and peer review in other works.
- Demonstrate an awareness that knowledge is often incomplete or imperfect, and thus multiple alternatives must be considered and conclusions are subject to change.
- Know the difference between primary and secondary documents, demonstrate how and when to cite in the format of the profession.
- Identify and summarize the historical arguments of other scholars.
- Frame a historical question and develop research strategies to address it, generate historical argument that is reasoned and based on evidence selected, arranged and analyzed.
- Effectively navigate the library and online databases, as well as the archives or in the community for primary sources, peer-reviewed literature and book reviews.

### Academic Requirements

No grade below a "C" in history courses and no more than 6 credits in HIST 491 - Independent Study (COM) and HIST 494 - Internship (COM) may be counted toward the major or minor.

### Course Delivery Format

The program provides courses online and face to face on campus and at various off-campus attendance centers.

### Requirements for History Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- HIST 111 - World Civilizations I (COM) [SGR #4] Credits: 3
  or HIST 121 - Western Civilization I (COM) [SGR #4] Credits: 3
- HIST 112 - World Civilizations II (COM) [SGR #4] Credits: 3
  or HIST 122 - Western Civilization II (COM) [SGR #4] Credits: 3
- HIST 151 - United States History I (COM) [SGR #3] Credits: 3
- HIST 152 - United States History II (COM) [SGR #3] Credits: 3
- HIST 280 - Writing History (COM) Credits: 3
- HIST 480 - Historical Methods and Historiography (COM) Credits: 3 (Capstone)

### US History Electives

Select twelve credits from the following 300-400 level US History Electives. A maximum of 6 credits from a non-History prefix will be accepted towards the major. Credits: 12

- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- GEOG 383-383L - Cartography and Lab Credits: 3
- GEOG 405 - Historical Geography Credits: 3
- HIST 349 - Women in American History (COM) Credits: 3
- HIST 352 - Revolution and Early National United States (COM) Credits: 3
- HIST 357 - America from WWI to the Great Depression: The Perils of Prosperity, 1914-1941 Credits: 3
- HIST 358 - The U.S. Since 1941 (COM) Credits: 3
- HIST 367 - Rise of American Indian Activism Credits: 3
- HIST 368 - History and Culture of the American Indian (COM) Credits: 3
- HIST 373 - Oral History Credits: 3
- HIST 378 - Social and Cultural History of the US Credits: 3
- HIST 409-509 - Environmental History of the U.S. (COM) Credits: 3
- HIST 455 - American Civil War and Reconstruction (COM) Credits: 3
- HIST 460 - American Military History (COM) Credits: 3
- HIST 462 - Formation of Federal Indian Policy Credits: 3
- HIST 465 - Western Expansion of the U.S. (COM) Credits: 3
- HIST 471 - American Indians in Film (COM) Credits: 3
- HIST 476 - History of South Dakota (COM) Credits: 3
- HIST 494 - Internship (COM) Credits: 1-12 (Max of 3 credits)

### World History Electives

Select six credits from the following 300-400 level World History Electives. Credits: 6

- HIST 301 - Jesus Remembered - Gospels Credits: 3
- HIST 326 - Renaissance and Reformation (COM) Credits: 3
- HIST 341 - English History to 1688 (COM) Credits: 3
- HIST 381 - Imperialism, Then and Now Credits: 3
- HIST 401 - Early Christian Era Credits: 3
- HIST 402 - Reformations and Religious Conflict Credits: 3
- HIST 404 - Classical Mythology (COM) Credits: 3
- HIST 406 - Experimental History in the Ancient World Credits: 3
- HIST 415 - Women in Antiquity (COM) Credits: 3
- HIST 422 - Ancient Rome (COM) Credits: 3
- HIST 425 - Medieval Europe (COM) Credits: 3
- HIST 440 - Ancient Greece (COM) Credits: 3
- HIST 445-545 - Nazi and Soviet Europe Credits: 3
- POLS 447 - Latin American Politics (COM) Credits: 3
- POLS 458 - Democracy and Authoritarianism (COM) Credits: 3

### Diversity Requirement

One course must be selected from the US History or World History Electives to fulfill the Diversity Requirement. The chosen course counts toward the total US History or World History Electives depending on the course chosen. The following courses fulfill the Diversity Requirement.

- HIST 349 - Women in American History (COM) Credits: 3
- HIST 367 - Rise of American Indian Activism Credits: 3
- HIST 368 - History and Culture of the American Indian (COM) Credits: 3
- HIST 373 - Oral History Credits: 3
- HIST 402 - Reformations and Religious Conflict Credits: 3
- HIST 415 - Women in Antiquity (COM) Credits: 3
- HIST 462 - Formation of Federal Indian Policy Credits: 3
- HIST 471 - American Indians in Film (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 36 Credit Hours |
| Electives** | 45 Credit Hours |

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 36 Credit Hours |
| Electives** | 47 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- History (B.A.)
- History (B.S.)

## History (B.A./B.S.) - Teaching Specialization

### Program Coordinator/Contact

Charles Vollan, Associate Professor of History
School of American and Global Studies
West Hall Room 119, Box 510
605-688-4311

### Program Information

The history curriculum is adaptable to personal interests and needs, allowing students to explore the past and make connections to the present. Students pursuing a History Teaching Specialization may select either a Bachelor of Arts or Bachelor of Science degree in preparation for careers in various fields related to education. The program also provides a necessary background for graduate work or other specialized training.

### Student Learning Outcomes

Students with a major in History will be able to:

- Demonstrate a knowledge of the most important historical events in U.S. History, including an in-depth study of issues facing minorities within the U.S.
- Demonstrate a knowledge of the most important historical events beyond the United States.
- Interpret the past in context; contextualize the past on its own terms.
- Develop a disciplined, skeptical stand and outlook on the world that demands evidence and a sophisticated use of information. This includes recognizing the difference between strong and weak arguments based on evidence, seeking use of proper citations and peer review in other works.
- Demonstrate an awareness that knowledge is often incomplete or imperfect, and thus multiple alternatives must be considered and conclusions are subject to change.
- Know the difference between primary and secondary documents, demonstrate how and when to cite in the format of the profession.
- Identify and summarize the historical arguments of other scholars.
- Frame a historical question and develop research strategies to address it, generate historical argument that is reasoned and based on evidence selected, arranged and analyzed.
- Effectively navigate the library and online databases, as well as the archives or in the community for primary sources, peer-reviewed literature and book reviews.

### Academic Requirements

- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.
- No more than 6 credits in HIST 491 - Independent Study (COM) and HIST 494 - Internship (COM) may be counted toward the major or minor.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's Secondary preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

The program provides courses online and face to face on campus and at various off-campus attendance centers.

### Requirements for History Major - Teaching Specialization: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 and/or SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 0-3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Elective Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- HIST 111 - World Civilizations I (COM) [SGR #4] Credits: 3
  or HIST 121 - Western Civilization I (COM) [SGR #4] Credits: 3
- HIST 112 - World Civilizations II (COM) [SGR #4] Credits: 3
  or HIST 122 - Western Civilization II (COM) [SGR #4] Credits: 3
- HIST 151 - United States History I (COM) [SGR #3] Credits: 3
- HIST 152 - United States History II (COM) [SGR #3] Credits: 3
- HIST 280 - Writing History (COM) Credits: 3
- HIST 476 - History of South Dakota (COM) Credits: 3
- HIST 480 - Historical Methods and Historiography (COM) Credits: 3 (Capstone)

### US History Electives

Select nine credits from the following 300-400 level US History Electives. A maximum of 6 credits from a non-History prefix will be accepted towards the major. Credits: 9

- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- GEOG 383-383L - Cartography and Lab Credits: 3
- GEOG 405 - Historical Geography Credits: 3
- HIST 349 - Women in American History (COM) Credits: 3
- HIST 352 - Revolution and Early National United States (COM) Credits: 3
- HIST 357 - America from WWI to the Great Depression: The Perils of Prosperity, 1914-1941 Credits: 3
- HIST 358 - The U.S. Since 1941 (COM) Credits: 3
- HIST 367 - Rise of American Indian Activism Credits: 3
- HIST 368 - History and Culture of the American Indian (COM) Credits: 3
- HIST 373 - Oral History Credits: 3
- HIST 378 - Social and Cultural History of the US Credits: 3
- HIST 409-509 - Environmental History of the U.S. (COM) Credits: 3
- HIST 455 - American Civil War and Reconstruction (COM) Credits: 3
- HIST 460 - American Military History (COM) Credits: 3
- HIST 462 - Formation of Federal Indian Policy Credits: 3
- HIST 465 - Western Expansion of the U.S. (COM) Credits: 3
- HIST 471 - American Indians in Film (COM) Credits: 3
- HIST 494 - Internship (COM) Credits: 1-12 (Max of 3 credits)

### World History Electives

Select six credits from the following 300-400 level World History Electives. Credits: 6

- HIST 301 - Jesus Remembered - Gospels Credits: 3
- HIST 326 - Renaissance and Reformation (COM) Credits: 3
- HIST 341 - English History to 1688 (COM) Credits: 3
- HIST 381 - Imperialism, Then and Now Credits: 3
- HIST 401 - Early Christian Era Credits: 3
- HIST 402 - Reformations and Religious Conflict Credits: 3
- HIST 404 - Classical Mythology (COM) Credits: 3
- HIST 406 - Experimental History in the Ancient World Credits: 3
- HIST 415 - Women in Antiquity (COM) Credits: 3
- HIST 422 - Ancient Rome (COM) Credits: 3
- HIST 425 - Medieval Europe (COM) Credits: 3
- HIST 440 - Ancient Greece (COM) Credits: 3
- HIST 445-545 - Nazi and Soviet Europe Credits: 3
- POLS 458 - Democracy and Authoritarianism (COM) Credits: 3

### Diversity Requirement

One course must be selected from the US History or World History Electives to fulfill the Diversity Requirement. The chosen course counts toward the total US History or World History Electives depending on the course chosen. The following courses fulfill the Diversity Requirement.

- HIST 349 - Women in American History (COM) Credits: 3
- HIST 367 - Rise of American Indian Activism Credits: 3
- HIST 368 - History and Culture of the American Indian (COM) Credits: 3
- HIST 373 - Oral History Credits: 3
- HIST 402 - Reformations and Religious Conflict Credits: 3
- HIST 415 - Women in Antiquity (COM) Credits: 3
- HIST 462 - Formation of Federal Indian Policy Credits: 3
- HIST 471 - American Indians in Film (COM) Credits: 3

### Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3 (College Requirement)
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- SEED 415 - 7-12 Social Science Methods (COM) Credits: 3 (Teaching Content Methods Requirement)
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 36 Credit Hours |
| Teaching Specialization Requirements | 34 Credit Hours |
| Electives** | 11 Credit Hours |

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 36 Credit Hours |
| Teaching Specialization Requirements | 34 Credit Hours |
| Electives** | 13 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- History (B.A.) - Teaching Specialization
- History (B.S.) - Teaching Specialization

## Horticulture (B.S.)

### Program Coordinator/Contact

David Wright, Department Head
Brent Turnipseed, Assistant Department Head
Hani Ghosheh, Undergraduate Teaching Coordinator
Department of Agronomy, Horticulture, and Plant Science
Raven Precision Agriculture Center 140
605-688-5123 (Department Head, SRPAC 140)
605-688-4450 (Teaching Office, SNP 247)

### Program Information

The Horticulture major is designed to prepare students for careers in nursery production, local food production, landscape, tree management, garden center operation, greenhouse production, or for entry into research and graduate study in horticultural science. Greenhouse facilities and extensive field plots in woody and herbaceous ornamentals, fruit, and vegetables provide students with the opportunity to experience all aspects of plant production and management.

### Program Emphases

The Horticulture Major offers four areas of emphasis. Students with an interest in:

- Crop management and production technologies of greenhouse, nursery, fruit, or vegetable crops can tailor their program of studies using the Production Emphasis.
- Careers in managing nurseries, landscape maintenance, arboriculture, garden centers or greenhouse businesses should follow the Business Emphasis.
- Careers in food crop or local food production and marketing should follow the Food Crop Emphasis.
- Pursuing a graduate degree or laboratory science career should follow the Science Emphasis.

### Student Learning Outcomes

Upon completion of the Horticulture major, students will:

- Demonstrate a fundamental understanding of basic Horticultural principles and practices.
- Demonstrate the ability to think creatively and to apply critical thinking skills when evaluating and analyzing information.
- Demonstrate the ability to learn, develop, and apply skills for the application of existing and emerging knowledge and technologies in Horticulture.
- Demonstrate the ability to apply scientific principles, quantitative skills, and other problem solving skills in Horticulture.
- Demonstrate knowledge and application of ethical and sustainable practices in the Horticultural fields.
- Demonstrate a fundamental understanding of local food production principles and practices.
- Demonstrate a fundamental understanding of plant identification, selection, use, and maintenance of plant material best suited for conventional and sustainable landscapes.
- Demonstrate the ability to effectively communicate (written, listening and oral) with both scientific and non-scientific audiences.

### Course Delivery Format

Students learn through hands-on and face-to-face learning in lecture, laboratory, and field-based experiences.

### Requirements for Horticulture Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6 (ABS 203 - Global Food Systems [SGR #3] Credits: 3 is a highly recommended course.)
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 or BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- HO 111-111L - Introduction to Horticulture and Lab Credits: 2, 1
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- PS 223-223L - Principles of Plant Pathology and Lab Credits: 2, 1
- PS 405-405L/505-505L - Entomology and Lab (COM) Credits: 3

### Major Requirements

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3
- BOT 327-327L - Plant Physiology and Lab Credits: 4
- CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1
- HO/ PS 210-210L - Turf and Weed Management in Horticulture and Lab Credits: 3
- HO/ PS 255-255L - Woody Plants and Lab Credits: 4
- HO/ PS 311-311L - Herbaceous Plants and Lab Credits: 3
- HO/ PS 329 - Horticultural Pests Credits: 3
- HO/ PS 339 - Arboriculture and Urban Forestry Credits: 3
- HO/ PS 411-511 - Fruit Crop Systems Credits: 1-6 (2 credits required)
  or HO/PS 444-544 - Vegetable Crop Systems Credits: 1-6 (2 credits required)
- HO/ PS 413-413L/513-513L - Greenhouse and High Tunnel Management and Lab Credits: 3
- HO 414-414L/514-514L - Plant Propagation and Lab Credits: 3
- HO 416-516 - Landscape Nursery Management Credits: 3
- HO/ PS 434-534 - Local Food Production Credits: 2
- HO/ PS 435 - Local Food Production: Harvest and Storage Credits: 2
- HO/ PS 447-547 - Organic Plant Production Credits: 3
- HO 490 - Seminar (COM) Credits: 1 (1 credit required)
  or PS 490 - Seminar (COM) Credits: 1 (1 credit required)
- HO 494 - Internship (COM) Credits: 1-12 (1 credit required)
  or PS 494 - Internship (COM) Credits: 1-2 (1 credit required)
- PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4
- PS 119 - First Year Seminar Credits: 1

### Technical Electives

It is recommended that students select from one set of technical electives. Select 15 credits from the following lists:

### Business Emphasis

Students with an interest in nursery management, landscape maintenance, arboriculture, or garden center or greenhouse business should follow the Business Emphasis. Credits: 15

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- AST 434-434L - Landscape Irrigation and Lab Credits: 3
- BADM 360 - Organization and Management (COM) Credits: 3
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- BOT/ HO 303-303L - Forest Ecology and Management and Lab Credits: 3
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- FIN 280 - Personal Finance (COM) Credits: 3
- FIN 310 - Business Finance (COM) Credits: 3
- HO/ PS 105 - Insects and Society Credits: 3
- HO 383-383L - Principles of Crop Improvement and Lab Credits: 2, 1
- HO 434-534 - Local Food Production Credits: 2
- HO 444-544 - Vegetable Crop Systems Credits: 1-6
  or HO 411-511 - Fruit Crop Systems Credits: 1-6 †
- HO 491 - Independent Study (COM) Credits: 1-5
- HO 494 - Internship (COM) Credits: 1-12 (1-2 credits required)
- HO 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3
- MGMT 334 - Small Business Management (COM) Credits: 3

### Food Crop Emphasis

Students with an interest in food crop production and marketing should follow the Food Crop Emphasis. Credits: 15

- AST 434-434L - Landscape Irrigation and Lab Credits: 3
- BADM 334 - Small Business Management (COM) Credits: 3
- FS 251 - Food Safety and Quality Management Systems Credits: 3
- HO/ PS 105 - Insects and Society Credits: 3
- HO 434-534 - Local Food Production Credits: 2
- HO 444-544 - Vegetable Crop Systems Credits: 1-6 (1-3 credits required)
  or HO 411-511 - Fruit Crop Systems Credits: 1-6 (1-3 credits required)

- HO 491 - Independent Study (COM) Credits: 1-5
- HO 494 - Internship (COM) Credits: 1-12 (1-2 credits required)
- HO 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- MICR 311-311L - Food Microbiology and Lab Credits: 4
- NUTR 111 - Food, People and the Environment Credits: 3

### Production Emphasis

Students interested in crop management and production technologies of greenhouse, nursery, turf, fruit, or vegetable crops can tailor their program of studies using the Production curriculum. Credits: 15

- AST 434-434L - Landscape Irrigation and Lab Credits: 3
- BOT/ HO 303-303L - Forest Ecology and Management and Lab Credits: 3
- HO/ PS 105 - Insects and Society Credits: 3
- HO 327-327L - Golf Course Design and Management and Lab Credits: 3
- HO 383-383L - Principles of Crop Improvement and Lab Credits: 2, 1
- HO 434-534 - Local Food Production Credits: 2
- HO 444-544 - Vegetable Crop Systems Credits: 1-6 (1-3 credits required) or HO 411-511 - Fruit Crop Systems Credits: 1-6 (1-3 credits required) †
- HO 491 - Independent Study (COM) Credits: 1-5
- HO 494 - Internship (COM) Credits: 1-12 (1-2 credits required)
- HO 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3
- LA 101 - Ecology and the Built Landscape Credits: 3
- PS 421-421L/521-521L - Soil Microbiology and Lab Credits: 3

### Science Emphasis

Students with an interest in pursuing a graduate degree or laboratory science career should follow the Science Emphasis. Credits: 15

- BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1
- BIOL 204-204L - Introduction to Cell Biology and Lab (COM) Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

*Students wishing to pursue a graduate degree or laboratory science career should replace biology, math and chemistry in the core curriculum with the following courses.

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- MATH 120 - Trigonometry (COM) [SGR #5] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Notes

† Modules must be different than those used to satisfy core curriculum.
†† It is recommended that students take no more than 6 credits of HO/AST courses in developing a plan of study for the Business Emphasis.

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30-31 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 72 Credit Hours |
| Electives** | 5-6 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Horticulture (B.S.)

## Hospitality, Tourism, & Event Management (B.S.)

### Program Coordinator/Contact

Kunsoon Park, Associate Professor
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5223

### Program Information

The Hospitality, Tourism, and Event Management program develops visionary leaders through excellence in student-centered education, skill development, research, service, and collaboration with global hospitality and tourism industries. The curriculum exposes students to many aspects of the hospitality, tourism, and event planning industry and instills in them the critical skills required for the modern workplace. Students complete two professional practicum experiences while pursuing their degree, which provides introductory and supervisory level industry experience. Students will earn a Bachelor of Science degree with a major in Hospitality, Tourism, and Event Management. The curriculum is designed to expose students to many aspects of the hospitality industry and to instill in them the critical skills required in today's workplace.

### Student Learning Outcomes

At the conclusion of the program, students will be able to:

- Communicate effectively (both written and orally) with professionals in the hospitality industry.
- Understand and value the benefits of lifelong learning in the hospitality industry.
- Apply supervisory and leadership knowledge and skills for enhancing performance and management in the hospitality industry.
- Demonstrate problem solving and critical thinking skills in the hospitality industry.
- Demonstrate a sense of ethical responsibility in the hospitality industry.

### Academic Requirements

A grade of a "C" or better is required in all HMGT and NUTR courses.

### Course Delivery Format

Practical learning experiences complement traditional academic settings. Internship and practicum courses prepare students for the real world and provide the industry with well-trained employees.

### Requirements for Hospitality, Tourism, and Event Management Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 and ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6 (Must be two different disciplines/prefixes or Modern Language sequence)
- Goal #5 Mathematics: MATH 103 - Mathematical Reasoning (COM) [SGR #5] Credits: 3 or MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- BADM/ MGMT 360 - Organization and Management (COM) Credits: 3
- CS 230 - Consumer Behavior Credits: 3
  or LDR 210 - Foundations of Leadership Credits: 3
- CS 282 - Customer Service Credits: 3

- CS 377 - Professional Documents Credits: 1
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- FIN 310 - Business Finance (COM) Credits: 3
- HMGT 171 - Introduction to Hospitality, Tourism, and Event Industry Credits: 3
- HMGT 251 - Foodservice Sanitation Credits: 1
- HMGT 295 - Practicum (COM) Credits: 2
- HMGT 355 - Events and Facilities Administration Credits: 3
- HMGT 361 - Hospitality Industry Law Credits: 3
- HMGT 370 - Lodging Management Credits: 3
- HMGT 375 - International Tourism Credits: 3
- HMGT 380 - Foodservice Operations and Purchasing Management Credits: 3
- HMGT 381-381L - Quantity Food Production and Service and Lab Credits: 4
- HMGT 455 - Advanced Events and Facilities Administration Credits: 3
- HMGT 472 - Hospitality Facilities Management and Design Credits: 3
- HMGT 482 - Hospitality Marketing Credits: 3
- HMGT 495 - Practicum (COM) Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- MGMT 325 - Management Information Systems (COM) Credits: 3
- NUTR 141-141L - Foods Principles and Lab Credits: 4

### Electives

Consult with advisor for approved list.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 72 Credit Hours |
| Electives** | 14 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Hospitality, Tourism, and Event Management (B.S.)

## Human Biology (B.S.)

### Program Coordinator/Contact

Radhey Kaushik, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141

### Program Information

The curriculum in the Human Biology major is designed for students planning to apply to health-related professional programs (e.g. chiropractic, dentistry, medicine, optometry, occupational therapy, physical therapy and physician assistant.)

### Student Learning Outcomes

Upon completion of the Human Biology major, students will:

- Demonstrate understanding and application of evolution; biological structure and function; biological and biochemical pathways and transformations of energy and matter; biological systems; and biology, biochemical, physiological and structural aspects of the human body.
- Apply the process of science.
- Demonstrate understanding of and application of quantitative reasoning; information flow, exchange, and storage; relationship between science and society.
- Tap into the interdisciplinary nature of science.
- Communicate and collaborate with other disciplines.

### Academic Requirements

A grade of C or higher is required for all major requirements including BIOL, MICR, CHEM 112, CHEM 114, CHEM 326, CHEM 328, CHEM 464, PHYS, MATH, and STAT 281.

### Course Delivery Format

Program coursework is on-campus, in classroom and laboratories, as well as field-based settings. Additional coursework is available at off-campus attendance centers. Limited coursework is available online.

### Requirements for Human Biology Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6 (PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 suggested and SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3 suggested)
- Goal #4 Humanities and Arts/Diversity: SGR #4 Electives Credits: 6 (PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3 suggested)
- Goal #5 Mathematics: MATH 115 - Precalculus (COM) [SGR #5] Credits: 5 or higher SGR #5 MATH course Credits 3-5 (Consult advisor as some professional schools require calculus.)
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4

### Department of Biology and Microbiology Requirements

- 25 semester credits must be upper division (300 and above), with the exception that MATH 125 and 225, Calculus II and III, may be counted as five credits toward the total.
- Students must complete a minimum of 33 credits from the natural sciences. Refer to departments offering the degree for specific course listings.

### Major Requirements

- BIOL 119 - First Year Seminar Credits: 2
- BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1
- BIOL 204-204L - Introduction to Cell Biology and Lab (COM) Credits: 3, 1
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 290 - Seminar (COM) Credits: 1
- BIOL 326-326L - Biomedical Physiology and Lab (COM) Credits: 3, 1
- BIOL 383 - Bioethics (COM) Credits: 4
- BIOL 490 - Seminar (COM) Credits: 1-3 (2 credits required)
- MICR 233-233L - Introductory Microbiology and Lab Credits: 4
- MICR 439-539 - Medical and Veterinary Immunology Credits: 3

### Select from the following

Select four courses from the following list. Credits: 12-16

- BIOL 470-570 - Cancer Biology (COM) Credits: 3
- BIOL 476-576 - Advanced Mammalian Physiology Credits: 4
- BIOL 483-583 - Developmental Biology (COM) Credits: 3
- BIOL 494 - Internship (COM) Credits: 1-12 (3 credits required)
- BIOL 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12 (3 credits required)
- CHEM 464 - Biochemistry I (COM) Credits: 3
- EXS 454-454L - Biomechanics and Lab (COM) Credits: 3
- MICR 424-524 - Medical and Veterinary Virology Credits: 3
- MICR 433-533 - Medical Microbiology (COM) Credits: 3
- MICR 440L - Infectious Disease Lab Credits: 3
- MICR 448-548 - Molecular and Microbial Genetics Credits: 4

### Supporting Coursework

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1

- ENGL 379 - Technical Communication (COM) Credits: 3 (Section: Biology and Microbiology)
- PHYS Elective (Consult adviser as many professional schools require PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4 and PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4) Credits: 4
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32-34 Credit Hours |
| Major Requirements | 44-48 Credit Hours |
| Supporting Coursework | 26 Credit Hours |
| Electives** | 12-18 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Human Biology (B.S.)

## Human Development & Family Services (A.S.)

### Program Coordinator/Contact

Amber Letcher, Associate Professor
School of Education, Counseling and Human Development
Wenona Hall 314
605-688-4941

### Program Information

The Human Development and Family Services program involves the study of lifespan development in the context of family, community and society. The Human Development and Family Services major prepares students for careers assisting prevention specialists, advocates, and educators working with children and families. Graduates will be employable in schools, hospitals, clinics, childcare facilities, and non-profit organizations. Completion of the Human Development and Family Services associate's degree will allow students to transfer 60 credits of coursework into the B.S. in Human Development and Family Studies.

### Student Learning Outcomes

Students with a major in Human Development and Human Services will be able to:

- Identify the effects of diverse environments on the development of individuals and families.
- Apply knowledge of human development and family theories and concepts to the experiences of individuals, couples, and families.
- Apply human development and family theories to explain and improve individual growth and family interaction.
- Reflect on their experience of participating in community-based programs.
- Demonstrate effective written and oral communication skills in a group setting.

### Academic Requirements

Students must receive a C or better grade in all HDFS prefix courses.

### Course Delivery Format

The program is offered at the Community College for Sioux Falls campus with courses delivered face-to-face and online.

### Requirements for Human Development and Family Services Major: 60 Credits

*Associate of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 and SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Elective Credits: 3

### Major Requirements

- HDFS 150 - Early Experience Credits: 2
- HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- HDFS 227 - Human Development and Personality I: Childhood Credits: 3
- HDFS 237 - Human Development II: Adolescence Credits: 3
- HDFS 241 - Family Relations Credits: 3
- HDFS 247 - Human Development III: Adulthood Credits: 3
- HDFS 250 - Development of Human Sexuality Credits: 3
- HDFS 255 - Program Design, Implementation and Evaluation Credits: 3
- HDFS 292 - Topics (COM) Credits: 1-3 (3 credits required)

### Supporting Coursework

- GERO 201 - Introduction to Gerontology Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 60

### Summary of Program Requirements

**Associate of Science**

| | |
|---|---|
| System General Education Requirements | 24 Credit Hours |
| Major Requirements | 26 Credit Hours |
| Supporting Coursework | 3 Credit Hours |
| Electives** | 7 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Human Development and Family Services (A.S.)

## Human Development & Family Studies (B.S.)

### Program Coordinator/Contact

Carla Anderson, Academic Advisor
School of Education, Counseling and Human Development
Wagner Hall 421
605-688-6145

### Program Information

The goal of the B.S. in Human Development and Family Studies is to provide an interdisciplinary approach to study and work with individuals and families. This program draws from theory and research that examines the process of human development across the lifespan and the dynamic interaction of family members. Students pursuing the B.S. in Human Development and Family Studies gain knowledge and experience in the science of human growth and development, human interaction, and family relationships. Graduates work in careers that promote healthy development and positive family functioning across the lifespan, such as: a Social Services Case Worker, Provider at Residential Treatment Center, Youth Organization Worker, Program Director for Youth, Family or Senior Citizen Center.

### Student Learning Outcomes

In the Human Development and Family Studies major, students will:

- Identify the effects of diverse environments on the development of individuals and families.
- Apply human development and family theories and concepts to the experiences of individuals, couples, and families.
- Apply human development and family theories to explain and improve individual growth and family interaction.
- Reflect on their experience of participating in community-based programs.
- Demonstrate effective written and oral communication skills in a group setting.

### Academic Requirements

A pre-graduation check is required by end of junior year. A Graduation Application must be completed at beginning of graduation semester. To effectively meet the wide range of professional interests of HDFS majors, students are required to develop a plan of study under the supervision of an advisor. This plan should include the specification of courses within and outside of the department that are targeted to assist in the professional preparation of the student. Emphases might include a focus on areas such as: children's services, religious services, family organizations, youth development organizations, gerontology services, families with special needs, etc. A grade of "D" on courses in the major cannot be counted and course must be repeated. Any required course with a department/program prefix is considered a course in the major.

### Course Delivery Format

Courses are delivered face-to-face with Internet supplement, online, and through clinical experience. Some courses are also offered at the Community College for Sioux Falls and the Capital University Center in Pierre.

### Requirements for Human Development and Family Studies Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 and SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 and SGR #6 Elective Credits: 3

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- CMST 201 - Interpersonal Communication (COM) [SGR #3] Credits: 3
  or CMST 470 - Intercultural Communication (COM) Credits: 3
- HDFS 150 - Early Experience Credits: 2
- HDFS 227 - Human Development and Personality I: Childhood Credits: 3
- HDFS 237 - Human Development II: Adolescence Credits: 3
- HDFS 241 - Family Relations Credits: 3
- HDFS 247 - Human Development III: Adulthood Credits: 3
- HDFS 250 - Development of Human Sexuality Credits: 3
- HDFS 255 - Program Design, Implementation and Evaluation Credits: 3
- HDFS 341 - Family Theories Credits: 3
- HDFS 410-510 - Parenting Credits: 3
- HDFS 425-525 - Family Resiliency Credits: 3
- HDFS 435-535 - Family Policy Credits: 3
- HDFS 441 - Professional Issues in Human Development and Family Studies Credits: 3
- HDFS 487 - Preparation for Practicum Credits: 1
- HDFS 495 - Practicum (COM) Credits: 6

### Supporting Coursework

- ENGL 379 - Technical Communication (COM) Credits: 3
- FCSE 421 - Adult Education Credits: 3
  or CA 321 - Consumer Needs and Program Funding Credits: 3
- GERO 201 - Introduction to Gerontology Credits: 3
- POLS 100 - American Government (COM) [SGR #3] Credits: 3
  or ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
  or ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- SOC 307 - Research Methods I (COM) Credits: 3
- SOC 308 - Research Methods II (COM) Credits: 3
  or STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 45 Credit Hours |
| Supporting Coursework | 18 Credit Hours |
| Electives** | 23 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Human Development and Family Studies (B.S.)

## Interdisciplinary Studies (B.A./B.S.)

### Program Coordinator/Contact

Jason McEntee, Department Head
Department of English and Interdisciplinary Studies
Pugsley Hall 301, Box 2218
605-688-5191

### Program Information

The Interdisciplinary Studies major is designed for those pursuing unique educational goals. Each student develops a goal-driven plan of study approved by the department selecting coursework relevant to those unique goals. Career opportunities for graduates are vast, evolving from the knowledge, skills and attitudes acquired through a well-designed plan of study. Interdisciplinary studies graduates have been very successful in the job market and in gaining acceptance to graduate/professional schools. Most graduates pursue careers in broad industries or emerging fields. Intensive advising and career planning are critical elements to ensure the plan of study appropriately prepares students for future goals.

### Student Learning Outcomes

Interdisciplinary Studies graduates will be able to:

- Analyze how historical and metaphorical models support research and problem solving through diverse disciplinary approaches.
- Apply interdisciplinary analytics to research.
- Express interdisciplinary understanding of a complex problem through the integration of disciplinary insights in an undergraduate research project.
- Illustrate how interdisciplinary study contributes to success in future professional and personal goals.

### Academic Requirements

Grade of "C" or higher is required for IDL 362 and IDL 479.

### Course Delivery Format

The three required courses (IDL 362, IDL 479, and ACS 489) are delivered entirely online. Students may choose to take general education and remaining plan of study courses in any delivery format and/or at multiple locations in accordance with limits set forth by South Dakota Board of Regents.

### Requirements for Interdisciplinary Studies Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- ACS 489 - Transition to Careers Credits: 1
- IDL 362 - Interdisciplinary Inquiry and Integration Credits: 3
- IDL 479 - Interdisciplinary Studies Capstone Credits: 3 (Capstone)
- Goal-based Plan of Study (50%+ must be upper division) Credits: 33

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 40 Credit Hours |
| Electives** | 41 Credit Hours |

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 40 Credit Hours |
| Electives** | 43 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Interdisciplinary Studies (B.A.)
- Interdisciplinary Studies (B.S.)

## Interior Design (B.F.A.)

### Program Coordinator/Contact

Angela McKillip, Associate Professor
School of Design
Wagner Hall 214, Box 2275A
605-688-5551

### Program Information

A major in Interior Design prepares students for professional practice, through research informed, design thinking infused and practice-based projects and opportunities that will strengthen their rational and creative thinking. Very broadly, it seeks to teach students the importance and value of the design process and design thinking, promote the awareness and knowledge of the contributions of the profession to the health, safety and well-being of people in the built environment, and to prepare graduates of the program to succeed as professional designers. Upon graduation from this CIDA (Council of Interior Design Accreditation) Accredited program, students are eligible to begin the NCIDQ (National Council of Interior Design Qualification) certificate examination process.

The curriculum is interactive, haptic and performance based, offering problem solving experiences in all major areas of design practice (i.e. healthcare, retail, corporate, residential, etc.), in addition to areas of focused instruction including human factors and behaviors, materials, history, building systems and construction, building codes and regulations, lighting, acoustics and professional practice. The overarching goal of the interior design program is to provide a transformative teaching and learning environment where passion and creativity are fostered, and careers are shaped. This is accomplished through four main goals woven into each project and opportunity delivered across the program: to be experiential, to be contextual, to be collaborative, to be empathetic.

### Student Learning Outcomes

Upon completion of the Interior Design major, students will be able to:

- Synthesize research findings to inform design solutions.
- Create interior environments infused with design-thinking.
- Apply practice-based knowledge and skill sets to interior spaces.

### Academic Requirements

The Interior Design major requires the completion of a practicum experience during the summer between the junior and senior years, and a travel studies course required at least once during the standard 4-year sequence (typically summer/May-term). Interior Design students must maintain at least a major GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of a "C" or better is required in all ART, ARTE, ARTH, GDES, DSGN, LA, ARCH, and ID courses.

### Accreditation, Certification, and Licensure

South Dakota State University offers the only four-year Interior Design degree in South Dakota accredited by the Council for Interior Design Accreditation (CIDA).

### Equipment and Supplies

The Interior Design major requires students to lease or own a laptop computer by the start of their sophomore year. Instructors provide the necessary specifications for processing speed, memory, capacity, and all required software.

### Course Delivery Format

The interior design curriculum is organized into eight semesters (two per year) with a practicum experience required during the summer between the junior and senior years, and a travel studies course required at least once during the standard 4-year sequence (typically summer/May-term). The curriculum provides a logical sequence of content from introductory level courses into more advanced courses that require higher level of application and development of skills.

### Requirements for Interior Design Major: 120 Credits

*Bachelor of Fine Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 and SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: ARTH 211 - History of World Art I (COM) [SGR #4] Credits: 3 and SGR #4 Elective Credits: 3

- Goal #5 Mathematics: MATH 103 - Mathematical Reasoning (COM) [SGR #5] Credits: 3 or MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4 and GEOG 132-132L - Physical Geography: Natural Landscapes and Lab (COM) [SGR #6] Credits: 4

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Fine Arts Requirements: 3

- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Fine Arts specifications.

### School of Design Requirements

- DSGN 110 - Creative Thinking Credits: 3
- DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3
- DSGN 452 - Design Capstone Credits: 2

### School of Design Electives

Select 6 credits from the following list. Students are required to take three credits in ARTH and three credits in ART, AHSS, or GDES from the list below. Contact the School of Design advisor for approval of additional courses. Credits: 6

- AHSS 110 - Introduction to Museum Studies Credits: 3
- ART 112 - Drawing II (COM) [SGR #4] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4] Credits: 3
- ART 231 - Painting I (COM) Credits: 3
- ART 241 - Sculpture I (COM) Credits: 3
- ART 251 - Ceramics I (COM) Credits: 3
- ART 281 - Printmaking I (COM) Credits: 3
- ART 492-592 - Topics (COM) Credits: 1-9 (3 credits required) (Illustration)
- ART 492-592 - Topics (COM) Credits: 1-9 (3 credits required) (Letterpress)
- ARTH 211 - History of World Art I (COM) [SGR #4] Credits: 3
- ARTH 212 - History of World Art II (COM) [SGR #4] Credits: 3
- ARTH 312 - History of Graphic Design (COM) Credits: 3
- ARTH 320 - Modern Art and Architecture Survey Credits: 3
- ARTH 490 - Seminar (COM) Credits: 1-3 (3 credits required)
- GDES 101 - Computer Graphics Credits: 3
- GDES 207 - Interactive Design I Credits: 3
- GDES 216 - Typography Credits: 3

### Major Requirements

- ID 112 - Drafting and Visualization Credits: 2
- ID 180 - Introduction to Interior Design Credits: 2
- ID 209 - Human Factors and Behavior Credits: 3
- ID 212 - Computer Aided Design Credits: 2
- ID 215 - Interior Design Materials Credits: 3
- ID 216 - Light and Color Credits: 3
- ID 251 - Interior Design Studio I Credits: 4
- ID 252 - Interior Design Studio II Credits: 4
- ID 314 - Building Systems and Construction Credits: 3
- ID 318 - Building Codes and Regulations Credits: 3
- ID 341 - History of Interior Design I Credits: 3
- ID 342 - History of Interior Design II Credits: 3
- ID 351 - Interior Design Studio III Credits: 4
- ID 352 - Interior Design Studio IV Credits: 4
- ID 371 - Professional Practices in Interior Design Credits: 2
- ID 377 - Design Presentation Strategies Credits: 2
- ID 415 - Contract Documents Credits: 2
- ID 451 - Interior Design Studio V Credits: 4
- ID 452 - Interior Design Studio VI Credits: 3 (Capstone)
- ID 480 - Travel Studies Credits: 1-5 (2 credits required)
- ID 495 - Practicum (COM) Credits: 3

### Supporting Coursework

- ART 111 - Drawing I (COM) [SGR #4] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Fine Arts**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements | 3 Credit Hours |
| School of Design Requirements* | 14 Credit Hours |
| Major Requirements | 61 Credit Hours |
| Supporting Coursework | 3 Credit Hours |
| Electives** | 7 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Interior Design (B.F.A.)

## Journalism (B.A./B.S.)

### Program Coordinator/Contact

Joshua Westwick, Director
School of Communication and Journalism
Yeager Hall 211, Box 2235
605-688-4171

### Program Information

A degree in Journalism prepares students with essential skills including: writing, speaking, critical thinking and technology. Through coursework and experiential learning opportunities, including a required internship, graduates are well-positioned for a wide variety of careers. Students may pursue a B.A. or B.S. in Journalism with coursework in both broadcast and news-editorial journalism. This versatile major prepares students to be digital storytellers, reporters, editors, designers for print, broadcast or online media, photojournalists, or communicators in government, with non-profit organizations or in the corporate world.

### Student Learning Outcomes

Students completing the Journalism major will be equipped to

- Apply the principles and laws of freedom of speech and press, in a global context, and for the country in which the institution that invites ACEJMC is located;
- Demonstrate an understanding of the multicultural history and role of professionals and institutions in shaping communications;
- Demonstrate culturally proficient communication that empowers those traditionally disenfranchised in society, especially as grounded in race, ethnicity, gender, sexual orientation and ability, domestically and globally, across communication and media contexts;
- Present images and information effectively and creatively, using appropriate tools and technologies;
- Write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve;
- Demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness and diversity;
- Apply critical thinking skills in conducting research and evaluating information by methods appropriate to the communications professions in which they work;
- Effectively and correctly apply basic numerical and statistical concepts;
- Critically evaluate their own work and that of others for accuracy and fairness, clarity, appropriate style and grammatical correctness;
- Apply tools and technologies appropriate for the communications professions in which they work.

### Academic Requirements

Journalism majors must have a "C" or better in ENGL 101; must have a GPA of 2.5 in required courses for the major; and must have grades of "C" or better in all major requirements. Students can not pursue a double major in any combination of Advertising, Journalism, or Public Relations. Students may pursue minors within the School of Communication and Journalism.

### Accreditation, Certification, and Licensure

The journalism major is accredited by the national accrediting body of journalism and mass communication, the Accrediting Council on Education in Journalism and Mass Communications (ACEJMC).

### Equipment and Supplies

Journalism majors must have a laptop and appropriate software to successfully complete the coursework and be adequately prepared for their professional careers. Apple Macs are the dominant choice in the industry. Necessary software includes Adobe Creative Cloud and Microsoft Word-compatible word processing software, as well as presentation and spreadsheet software, such as PowerPoint and Excel.

### Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

### Requirements for Journalism Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- MCOM 119 - First-Year Seminar in Communication and Journalism Credits: 2
- MCOM 210-210L - Basic Newswriting and Lab (COM) Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- MCOM 220-220L - Introduction to Digital Media and Lab (COM) Credits: 3
- MCOM 265-265L - Basic Photography and Lab (COM) Credits: 3
- MCOM 270 - Data Analysis in Communication Credits: 3
- MCOM 311-311L - News Editing and Editing Lab (COM) Credits: 3
  or MCOM 333-333L - Broadcast News Reporting and Lab Credits: 3
- MCOM 331-331L - Video Production and Lab (COM) Credits: 3
- MCOM 394 - Internship (COM) Credits: 1-12 (3 credits required)
  or MCOM 494 - Internship (COM) Credits: 1-12 (3 credits required)
- MCOM 416-516 - Mass Media in Society Credits: 3
  or MCOM 417-517 - History of Journalism Credits: 3
- MCOM 430-530 - Media Law (COM) Credits: 3
- MCOM 433-433L - Advanced Broadcast News Reporting and Lab Credits: 3 (Capstone)
  or MCOM 434 - Advanced Multiplatform Storytelling (COM) Credits: 3 (Capstone)

### Select from the following

Select 9 credits from the following MCOM or PUBR Electives. Credits: 9

- MCOM 215 - Sportswriting (COM) Credits: 3
- MCOM 266-266L - Photojournalism and Studio (COM) Credits: 3
- MCOM 311-311L - News Editing and Editing Lab (COM) Credits: 3
  or MCOM 333-333L - Broadcast News Reporting and Lab Credits: 3
- MCOM 336 - Feature Writing Credits: 3
- MCOM 359-359L - Mobile Media Design and Applications and Lab Credits: 3
- MCOM 365-365L - Advanced Photography and Lab (COM) Credits: 3
- MCOM 413-513 - International Media (COM) Credits: 3
- MCOM 438-438L - Public Affairs Reporting and Lab Credits: 3
- MCOM 474-574 - Media Administration and Management Credits: 3
- PUBR 243 - Public Relations Principles (COM) Credits: 3
- PUBR 345 - Public Relations Writing Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

| | |
|---|---|
| **Bachelor of Arts** | |
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 44 Credit Hours |
| Electives** | 37 Credit Hours |
| **Bachelor of Science** | |
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 44 Credit Hours |
| Electives** | 39 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Journalism (B.A.)
- Journalism (B.S.)

## Landscape Architecture (B.L.A.)

### Program Coordinator/Contact

Don Burger, Associate Professor
School of Design
Horticulture and Forestry 102A
605-688-6704

### Program Information

Landscape Architecture is the art of design, planning, and management of outdoor spaces for human use and habitation. Cultural and scientific knowledge are applied to the use and arrangement of natural and man-made elements with concern for resource conservation, stewardship, and the environment. Graduates work in a wide variety of areas in the landscape industry, as designers and planners in public and private practice, and as environmental designers and managers.

### Student Learning Outcomes

Students in the Landscape Architecture program will be able to:

- Collect and analyze site-related data and attributes.
- Synthesize findings and analysis into design program and decisions.
- Develop and analyze different design concepts and points of view.
- Apply knowledge and skills to address a design problem and provide appropriate solutions.
- Develop and lead community engagement/improvement projects.
- Consider diverse perspectives and user groups when making design decisions.
- Address issues of diversity and equity through the design process.

### Academic Requirements

Landscape Architecture students must maintain at least a major GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of a "C" or better is required in all ART, ARTE, ARTH, GDES, DSGN, LA, ARCH, ID and technical elective course requirements.

### Accreditation, Certification, and Licensure

The Landscape Architecture Program is fully accredited through the LAAB. Students seeking licensure and certification may consult their advisor and visit www.CLARB.org for more information on requirements.

### Course Delivery Format

The program provides coursework through hands-on and face-to-face learning in lecture, studio, and field-based settings.

### Requirements for Landscape Architecture Major: 120 Credits

*Bachelor of Landscape Architecture*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: ART/DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3 and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 and SGR #6 Elective Credits: 3

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Landscape Architecture Requirements: 3

- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Landscape Architecture specifications.

### School of Design Requirements

- DSGN 110 - Creative Thinking Credits: 3
- DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3 (SGR #4)
- DSGN 452 - Design Capstone Credits: 2

### School of Design Electives

Select 6 credits from the list below. Students are required to take any 6 credits from the ART, AHSS, ARTH, or GDES courses in the list below. Contact the School of Design advisor for approval of additional courses. Credits: 6

- AHSS 110 - Introduction to Museum Studies Credits: 3
- ART 111 - Drawing I (COM) [SGR #4] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4] Credits: 3
- ART 231 - Painting I (COM) Credits: 3
- ART 241 - Sculpture I (COM) Credits: 3
- ART 251 - Ceramics I (COM) Credits: 3
- ART 281 - Printmaking I (COM) Credits: 3
- ART 492-592 - Topics (COM) Credits: 1-9 (3 credits required) (Illustration)
- ART 492-592 - Topics (COM) Credits: 1-9 (3 credits required) (Letterpress)
- ARTH 211 - History of World Art I (COM) [SGR #4] Credits: 3
- ARTH 212 - History of World Art II (COM) [SGR #4] Credits: 3
- ARTH 312 - History of Graphic Design (COM) Credits: 3
- ARTH 320 - Modern Art and Architecture Survey Credits: 3
- ARTH 490 - Seminar (COM) Credits: 1-3 (3 credits required)
- GDES 101 - Computer Graphics Credits: 3
- GDES 207 - Interactive Design I Credits: 3
- GDES 216 - Typography Credits: 3

### Major Requirements

- LA 101 - Ecology and the Built Landscape Credits: 3
- LA 132 - Seeing and Drawing the Land Credits: 3
- LA 231 - Digital Drafting and Mapping Credits: 2
- LA 232 - Digital Representation Credits: 2
- LA 242 - People and the Environment Credits: 3
- LA 251 - Site Analysis Credits: 4
- LA 252 - Site Planning Credits: 4
- LA 331 - Landscape Architecture Site Engineering Credits: 3
- LA 332 - Landscape Architecture Construction Detailing Credits: 3
- LA 341 - Public and Social Place Design Credits: 3
- LA 342 - City Planning Credits: 3
- LA 351 - Community and Housing Design Credits: 4
- LA 352 - Planting and Ecological Design Credits: 4
- LA 389 - Travel Studies Credits: 1-3
  or LA 494 - Internship (COM) Credits: 1-12 (3 credits required)
  or LA 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3 (3 credits required)
- LA 431 - Landscape Architecture Construction Processes Credits: 3
- LA 441 - Recreation Design Credits: 3
- LA 442 - Professional Development Credits: 2
- LA 451 - Urban Design Studio Credits: 4
- LA 452 - Capstone Studio Credits: 4 (Capstone)

### Technical Electives

Students shall select a minimum of 9 credits of Technical Electives. All technical electives must be approved by advisor. Credits: 9

- ARCH 241 - Construction History [SGR #4] Credits: 3
- ARCH 382 - Travel Studies Credits: 1
- ART 111 - Drawing I (COM) [SGR #4] Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4] Credits: 3
- ART 231 - Painting I (COM) Credits: 3
- ART 241 - Sculpture I (COM) Credits: 3
- ART 251 - Ceramics I (COM) Credits: 3
- ART 281 - Printmaking I (COM) Credits: 3
- GDES 101 - Computer Graphics Credits: 3
- GDES 203 - Animation Foundations I Credits: 3
- GDES 216 - Typography Credits: 3
- HO 311-311L - Herbaceous Plants and Lab Credits: 3
- ID 209 - Human Factors and Behavior Credits: 3
- ID 215 - Interior Design Materials Credits: 3
- ID 216 - Light and Color Credits: 3
- ID 341 - History of Interior Design I Credits: 3
- ID 377 - Design Presentation Strategies Credits: 2
- ID 415 - Contract Documents Credits: 2
- LA 491 - Independent Study (COM) Credits: 1-3
- LA 492 - Topics (COM) Credits: 1-4
- LA 494 - Internship (COM) Credits: 1-12
- LA 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3

### Supporting Coursework

- HO 111-111L - Introduction to Horticulture and Lab Credits: 2, 1
- HO 255-255L - Woody Plants and Lab Credits: 4

### Electives

Taken as needed to complete any additional degree requirements.

**Total Required Credits: 120**

**Summary of Program Requirements**

**Bachelor of Landscape Architecture**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements | 3 Credit Hours |
| School of Design Requirements* | 14 Credit Hours |
| Major Requirements | 69 Credit Hours |
| Supporting Coursework | 7 Credit Hours |
| Electives** | 0 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Landscape Architecture (B.L.A.)

## Leadership & Management of Nonprofit Organizations (B.S.)

### Program Coordinator/Contact

Kimberly Gustafson, Lecturer
School of Health and Consumer Sciences
Wagner Hall 409
605-688-5161

### Program Information

The Leadership and Management of Nonprofit Organizations major will prepare students for jobs in the nonprofit sector. Through the Leadership and Management of Nonprofit Organizations (LMNO) program, students will be empowered to become successful professionals who work to advance the quality of life in communities. The program prepares students with opportunities to increase their abilities and skills in the work of leadership to enhance nonprofit organizations. Students will develop a basic understanding of the nonprofit sector, the role of philanthropy in the United States, and introduce the history, philosophy, ethics, and organizational structure of nonprofit and social service agencies. Students will apply fundraising, volunteer management, financial management, leadership and team development techniques.

Upon completion of the undergraduate program, students may also earn the Certified Nonprofit Professional credential with the Nonprofit Leadership Alliance organization. This certification requires students to have knowledge and experiences in 10 different competencies areas. Those competency areas are: Communication, Marketing, and Public Relations; Culture and Diversity; Financial Resource Development and Management; Foundations and Management of Nonprofit Sector; Governance, Leadership, and Advocacy; Legal and Ethical Decision Making; Personal and Professional Development; Program Development; Volunteer and Human Resource Management; and Future of the Nonprofit Sector.

Graduates will be prepared to obtain positions with local, national, and international nonprofit organizations or employers outside of the nonprofit sector. Examples of these positions include executive director of a nonprofit; marketing and public relations; fundraising and resource development; human resources director of a nonprofit; volunteer recruitment and management; community and economic development; program development, management and evaluation; and financial administration and management. Students graduating with the LMNO major may be employed by for-profits in their public affairs, community relations, or corporate responsibility departments or in the consultant industry.

### Student Learning Outcomes

Leadership and Management of Nonprofit Organizations graduates will:

- Apply knowledge of fundamental nonprofit management terms, theories, and skills.
- Demonstrate and apply in-depth knowledge of leadership theories.
- Demonstrate the ability to function as an effective member of a team.
- Demonstrate respect and understanding towards diverse cultures and beliefs of individuals and communities.
- Explain the importance of and show evidence of ethical and professional behaviors.
- Design, implement, and evaluate projects for a variety of audiences.
- Demonstrate effective written and/or oral communication skills to appropriate audiences.

### Academic Requirements

Students will complete all LMNO and LDR coursework with a C or better.

### Accreditation, Certification, and Licensure

Students may pursue the National Certified Nonprofit Professional credential through SDSU's affiliation with the Nonprofit Leadership Alliance. The Certified Nonprofit Professional (CNP) credential is the only national nonprofit credential preparing students (undergraduate, graduate and professionals) for careers in nonprofit management.

### Course Delivery Format

Certification requirements are met through course work, co-curricular involvement, and an internship. National Certification through the Nonprofit Leadership Alliance in nonprofit management requires an additional 120-hour internship with a nonprofit organization, passing a credentialing exam, and attending the Alliance Management Institute conference.

### Requirements for Leadership and Management of Nonprofit Organizations Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Elective Credits: 6
- Goal #4 Arts and Humanities/Diversity: PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3 and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Elective Credits: 6

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- ADV 314 - Digital Promotions Credits: 3
  or ADV 370 - Advertising Principles (COM) Credits: 3
  or MKTG 370 - Marketing (COM) Credits: 3
  or PUBR 243 - Public Relations Principles (COM) Credits: 3
- CA/ CS 230 - Consumer Behavior Credits: 3
  or CS 381 - Professional Behavior at Work Credits: 3
- CA 321 - Consumer Needs and Program Funding Credits: 3
  or HDFS 255 - Program Design, Implementation and Evaluation Credits: 3
  or MGMT 334 - Small Business Management (COM) Credits: 3
- CA 340 - Work Family Interface Credits: 3
- CA 360-360L - Quantitative Research Methods in Consumer Affairs and Lab Credits: 4
- CS 377 - Professional Documents Credits: 1
- FIN 310 - Business Finance (COM) Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3
- LDR 310 - Leadership in Context (COM) Credits: 3
- LDR 410 - Leadership: Senior Seminar Credits: 1
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- LDR/ LMNO 496 - Field Experience (COM) Credits: 2 (Leadership in Action)
- LMNO 201 - Introduction to Leadership and Management of Nonprofit Organizations Credits: 3
- LMNO 301 - Fundraising and Resource Development Credits: 3
- LMNO 305 - Volunteer Management Credits: 3
- LMNO 315 - Financial Management of Nonprofit Organizations Credits: 3
- LMNO 487 - Preparing for Internship and Career Credits: 2

- LMNO 494 - Internship (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 61 Credit Hours |
| Electives** | 25 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Leadership and Management of Nonprofit Organizations (B.S.)

## Mathematics (B.S.)

### Program Coordinator/Contact

Kurt Cogswell, Department Head
Department of Mathematics and Statistics
Chicoine Architecture, Mathematics and Engineering Hall 209
605-688-6196

### Program Information

The Mathematics degree program provides an outstanding educational experience to students interested in any of the wide range of excellent career or graduate school choices available in the mathematical sciences. The undergraduate mathematics curriculum is organized into three cores: the General Education Core, the Mathematics Core, and the Professional Core. Options for the Professional Core are the Computational Science Concentration, the Financial Engineering Curriculum, the Open Concentration, and the Mathematics Education Specialization. The flexible, specialized paths are available that lead to the best career options open to mathematicians and statisticians.

### Student Learning Outcomes

Upon completion of the Mathematics major, students will be able to:

- Apply concepts and methods from Calculus and Linear Algebra.
- Analyze, evaluate, and create mathematically rigorous arguments.
- Use contemporary mathematical, statistical, and educational software and technology to create models, analyze data, or explain concepts as appropriate for student's focus.
- Work as part of a team to solve a complex mathematical or statistical problem.
- Demonstrate mathematical independence by critically reading, understanding and re-explaining mathematical, statistical, or mathematics pedagogy resources.
- Communicate complex mathematical, statistical, or mathematics pedagogical ideas clearly and succinctly both in writing and verbally as appropriate for student's focus.
- Exhibit strength in at least one career-focused or graduate school preparatory area of mathematics or statistics.
- Understand and appreciate the contributions to the field of mathematics and statistics by a diverse group of individuals and how the student fits and works in this group.

### Academic Requirements

A grade of "C" or above is required in all MATH and STAT courses.

### Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

### Requirements for Mathematics Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4 or PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4 or PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4 or CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 or BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 or INFO 101 - Introduction to Informatics [SGR #6] Credits: 3

### Major Requirements

- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 198 - The Mathematics Profession (COM) Credits: 1
- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
- MATH 230 - Sophomore Seminar Credits: 1
- MATH 250 - Introduction to Linear Algebra and Proof Credits: 3
- MATH 253 - Logic, Sets, and Proof Credits: 4
- MATH 316 - Discrete Mathematics (COM) Credits: 3
  or MATH 321 - Differential Equations (COM) Credits: 3
- MATH 401 - Senior Capstone Credits: 1-2 (4 credits required)
- MATH 413 - Abstract Algebra I (COM) Credits: 3
- MATH 425 - Real Analysis I (COM) Credits: 3
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
  or STAT 382 - Probability Credits: 3
- Mathematics or Statistics Electives (300 level or above) Credits: 14

### Supporting Coursework

- CSC 150 - Computer Science I (COM) Credits: 3
  or INFO 101 - Introduction to Informatics [SGR #6] Credits: 3

### Electives

Students are encouraged to use elective credits to complete one or more minors.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32-33 Credit Hours |
| Major Requirements | 47 Credit Hours |
| Supporting Coursework | 3 Credit Hours |
| Electives** | 37-38 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Mathematics (B.S.)

## Mathematics (B.S.) - Data Science Specialization

### Program Coordinator/Contact

Kurt Cogswell, Department Head
Department of Mathematics and Statistics
Chicoine Architecture, Mathematics and Engineering Hall 209
605-688-6196

### Program Information

The Data Science Specialization of the Mathematics degree program provides an outstanding educational experience to students interested in any of the wide range of excellent career or graduate school choices available in the data science. Graduates gain all the mathematical expertise associated with the B.S. in Mathematics degree program while simultaneously building substantial additional expertise in the mathematical, statistical, and computational methods of data

science. Graduates are thus prepared for any post-graduation outcome including immediate entry into the professional world or further study in a pursuit of a Master's degree or a Ph.D. in mathematics, statistics, or data science.

### Student Learning Outcomes

Upon completion of the Mathematics major, students will be able to:

- Apply concepts and methods from Calculus and Linear Algebra.
- Analyze, evaluate, and create mathematically rigorous arguments.
- Use contemporary mathematical, statistical, and educational software and technology to create models, analyze data, or explain concepts as appropriate for student's focus.
- Work as part of a team to solve a complex mathematical or statistical problem.
- Demonstrate mathematical independence by critically reading, understanding and re-explaining mathematical, statistical, or mathematics pedagogy resources.
- Communicate complex mathematical, statistical, or mathematics pedagogical ideas clearly and succinctly both in writing and verbally as appropriate for student's focus.
- Exhibit strength in at least one career-focused or graduate school preparatory area of mathematics or statistics.
- Understand and appreciate the contributions to the field of mathematics and statistics by a diverse group of individuals and how the student fits and works in this group.

### Academic Requirements

A grade of "C" or above is required in all MATH and STAT courses.

### Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

### Requirements for Mathematics Major - Data Science Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal # 1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: INFO 101 - Introduction to Informatics [SGR #6] Credits: 3 and PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4 or PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4 or CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 or BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4

### Major Requirements

- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 198 - The Mathematics Profession (COM) Credits: 1
- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
- MATH 230 - Sophomore Seminar Credits: 1
- MATH 250 - Introduction to Linear Algebra and Proof Credits: 3
- MATH 253 - Logic, Sets, and Proof Credits: 4
- MATH 315 - Linear Algebra (COM) Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- MATH 401 - Senior Capstone Credits: 1-2 (2 credits required)
- MATH 425 - Real Analysis I (COM) Credits: 3
- STAT 382 - Probability Credits: 3

### Select from the following

Select thirty credits from the following. Credits: 30

- CSC 250 - Computer Science II (COM) Credits: 3
- CSC 300 - Data Structures (COM) Credits: 3
- CSC 319 - Parallel Computing (COM) Credits: 3
  or CSC 325 - Management Information Systems (COM) Credits: 3
  or CSC 447-547 - Artificial Intelligence (COM) Credits: 3
  or CSC 484 - Database Management Systems (COM) Credits: 3
- MATH 316 - Discrete Mathematics (COM) Credits: 3
- MATH 374 - Scientific Computation I Credits: 3
- MATH 415-515 - Advanced Linear Algebra (COM) Credits: 3
- MATH 475-575 - Operations Research (COM) Credits: 3
- STAT 383 - Geospatial Data Analysis Credits: 3
- STAT 410-510 - SAS Programming Credits: 3
- STAT 414-514 - Basic R Programming Credits: 1
- STAT 415-515 - R Programming Credits: 3
- STAT 442 - Exploratory and Cloud-Based Data Analysis Credits: 3
- STAT 445-545 - Nonparametric Statistics (COM) Credits: 3
- STAT 451-551 - Predictive Analytics I Credits: 3
- STAT 453-553 - Applied Bayesian Statistics Credits: 3
- STAT 460-560 - Time Series Analysis (COM) Credits: 3
- STAT 482 - Mathematical Statistics Credits: 3

### Supporting Coursework

- CSC 150 - Computer Science I (COM) Credits: 3

### Electives

Taken as needed to complete any additional requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| Major Requirements | 61 Credit Hours |
| Supporting Coursework | 3 Credit Hours |
| Electives** | 24 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Mathematics (B.S.) - Data Science Specialization

## Mathematics (B.S.) - Teaching Specialization

### Program Contact/Coordinator

Kurt Cogswell, Department Head
Department of Mathematics and Statistics
Chicoine Architecture, Mathematics and Engineering Hall 209
605-688-6196

### Program Information

Secondary school mathematics educators need to be mathematicians as well as skilled educators, so the Mathematics Education Specialists take the same challenging core upper level mathematics courses as those math majors pursuing other professional goals. In addition to this rigorous mathematics curriculum, Mathematics Education Specialists take the full block of education courses. This program allows graduates to find meaningful careers in secondary education, as well as preparing students for graduate study.

### Student Learning Outcomes

Upon completion of the Mathematics major with teaching specialization, students will be able to:

- Apply concepts and methods from Calculus and Linear Algebra.
- Analyze, evaluate, and create mathematically rigorous arguments.
- Use contemporary mathematical, statistical, and educational software and technology to create models, analyze data, or explain concepts as appropriate for student's focus.
- Work as part of a team to solve a complex mathematical or statistical problem.
- Demonstrate mathematical independence by critically reading, understanding and re-explaining mathematical, statistical, or mathematics pedagogy resources.

- Communicate complex mathematical, statistical, or mathematics pedagogical ideas clearly and succinctly both in writing and verbally as appropriate for student's focus.
- Exhibit strength in at least one career-focused or graduate school preparatory area of mathematics or statistics.
- Understand and appreciate the contributions to the field of mathematics and statistics by a diverse group of individuals and how the student fits and works in this group.

### Academic Requirements

- A grade of "C" or above is required in all Math courses.
- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's Secondary preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

### Requirements for Mathematics Major - Teaching Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Elective Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Elective Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4 or PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4 or PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4 or CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 or BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 or INFO 101 - Introduction to Informatics [SGR #6] Credits: 3

### Major Requirements

- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 198 - The Mathematics Profession (COM) Credits: 1
- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
- MATH 230 - Sophomore Seminar Credits: 1
- MATH 250 - Introduction to Linear Algebra and Proof Credits: 3
- MATH 253 - Logic, Sets, and Proof Credits: 4
- MATH 261 - Geometry for Teachers Credits: 3
- MATH 316 - Discrete Mathematics (COM) Credits: 3
- MATH 355 - Methods of Teaching Mathematics Credits: 4
- MATH 371 - Technology for STEM Educators Credits: 2
- MATH 401 - Senior Capstone Credits: 1-2 (2 credits required)
- MATH 413 - Abstract Algebra I (COM) Credits: 3
- MATH 425 - Real Analysis I (COM) Credits: 3
- MATH 433 - Capstone: Mathematics Education Credits: 3
- MATH 434 - Assessment in STEM Education Credits: 1
- MATH 450 - History of Mathematics (COM) Credits: 3
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
  or STAT 382 - Probability Credits: 3

### Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- MATH 355 - Methods of Teaching Mathematics Credits: 4 (Teaching Content Methods Requirement) (Major Requirement)
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Supporting Coursework

- CSC 150 - Computer Science I (COM) Credits: 3
  or INFO 101 - Introduction to Informatics [SGR #6] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32-33 Credit Hours |
| Major Requirements | 47 Credit Hours |
| Teaching Specialization Requirements | 34 Credit Hours |
| Supporting Coursework | 3 Credit Hours |
| Electives** | 3-4 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Mathematics (B.S.) - Teaching Specialization

## Mechanical Engineering (B.S.)

### Program Coordinator/Contact

Yucheng Liu, Department Head
Department of Mechanical Engineering
Crothers Engineering Hall 221, Box 2219
605-688-5426

### Program Information

Mechanical engineers design devices and systems that efficiently employ the materials and forces of nature for the benefit of society. Mechanical Engineering is an applied science profession based on mathematics, physics and chemistry. Expertise and sound judgment in application of the sciences are gained through a combination of study and practice.

Mechanical engineers have a remarkable range of career options from which to choose. Work is found in design and development of a wide range of machines and systems, in manufacturing and automation, in energy and power production, and in various related fields of research, management or business.

### Program Educational Objectives

The Mechanical Engineering program provides a learning environment that prepares graduates to achieve the following career and professional accomplishments:

- Achieve positions of increasing responsibility or leadership with employers, professional organizations, or civic organizations in recognition of professional competence and the ability to function in team environments.
- Complete licensure, certification, short courses, workshops or advanced degrees in technical or professional subject areas as they adapt to contemporary engineering practice and the global business environment.

### Student Outcomes

Upon completing the Mechanical Engineering program, the student outcomes are:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. the ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. an ability to communicate effectively with a range of audiences.
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and social contexts.
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

### Accreditation, Certification, and Licensure

The Mechanical Engineering (B.S.) program at SDSU is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org.

Upon reaching the final semester of the curriculum, Mechanical Engineering students are eligible and required to sit for the Fundamentals of Engineering (FE) Exam. This nationally administered exam is the first step in the process of becoming licensed to practice as a Professional Engineer. Each state sets its own standards for licensing. In South Dakota, after successfully completing a B.S. degree from an accredited program and passing the FE Exam, four years of engineering experience under a licensed engineer are required to be eligible to sit for the Principles and Practices of Engineering Exam. Successfully passing this exam is the final step in becoming licensed as a Professional Engineer. Information can be found at http://www.ncees.org/.

### Academic Requirements

- A combined average of "C" or better in the mechanical engineering courses.
- A combined average of "C" or better in the mathematics courses.
- A minimum grade of "C" in each of the following courses: MATH 123, MATH 125, PHYS 211, ME 311, ME 312, and all EM designated courses
- Students who fail to earn a "C" or better in any of these courses, will be required to repeat them in each subsequent semester until the requirement is met.

### Course Delivery Format

Mechanical engineering is an occupation requiring both study and practice. Instruction occurs through a combination of traditional classroom methods, laboratory exercises using contemporary engineering technologies, and design project experiences.

### Requirements for Mechanical Engineering Major: 130 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: Goal #4 Arts and Humanities/Diversity
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4

### Major Requirements

- ME 121-121L - Production and Fabrication Processes and Lab Credits: 2
- ME 212-212L - Mechanical Engineering Design Technologies and Lab Credits: 2
- ME 230-230L - Engineering Design Methods and Lab Credits: 2
- ME 241 - Engineering Materials Credits: 3
- ME 311 - Thermodynamics I Credits: 3
- ME 312 - Thermodynamics II (COM) Credits: 3
- ME 321 - Fundamentals of Machine Design Credits: 3
- ME 323 - Vibrations Credits: 3
- ME 376-376L - Measurements and Instrumentation and Lab Credits: 2
- ME 415 - Heat Transfer Credits: 3
- ME 421 - Design of Machine Elements Credits: 3
- ME 451 - Automatic Controls Credits: 3
- ME 452 - Dynamic Systems Lab Credits: 1
- ME 476 - Thermo-Fluids Lab Credits: 1
- ME 478 - Mechanical Systems Design I Credits: 2
- ME 479-479L - Mechanical Systems Design II and Lab (COM) Credits: 2
- ME 490-590 - Seminar (COM) Credits: 1-2 (1 credit required)

### Technical Electives

The 15 credits of technical electives may be chosen from the following list. At least three of the electives must have the ME prefix. Courses not listed may qualify as technical electives with departmental approval. Credits: 15

- ABE 314-314L - Ag Power and Machines and Lab Credits: 4
- ABE 350-350L - Hydraulic and Pneumatic Systems and Lab Credits: 3
- GE 210 - Geometric Dimensioning and Tolerancing Credits: 2
- ME 341-341L - Metallurgy and Lab Credits: 3
- ME 362 - Industrial Engineering Credits: 3
- ME 410-510 - Principles of HVAC Engineering Credits: 3
- ME 412-512 - Internal Combustion Engines Credits: 3
- ME 413-513 - Turbomachinery Credits: 3
- ME 414-514 - Air Pollution Control Credits: 3
- ME 416-516 - Renewable Energy Systems Credits: 3
- ME 417-417L/517-517L - Computer-Aided Engineering and Lab Credits: 3
- ME 418-518 - Design of Thermal Systems Credits: 3
- ME 431-531 - Aerodynamics Credits: 3
- ME 437-537 - Gas Dynamics I Credits: 3
- ME 438-438L - Machine Design-Case Studies and Lab Credits: 3
- ME 439-439L/539-539L - HVAC System Design and Lab Credits: 3
- ME 440-540 - Numerical Methods for Engineering Design Credits: 3
- ME 441-541 - Robotic Systems Credits: 3
- ME 442-542 - Applications of Computational Fluid Dynamics Credits: 3
- ME 446-546 - Engineering Mechanics in Biomedical Applications Credits: 3
- ME 448-548 - Mechanical Behavior of Biomaterials Credits: 3
- ME 461-561 - Analysis and Design of Industrial Systems Credits: 3
- ME 491 - Independent Study (COM) Credits: 1-5 (1-3 Credits fulfill the Technical Elective requirement).
- ME 492-592 - Topics (COM) Credits: 1-5
- ME 494 - Internship (COM) Credits: 1-3
- ME 497 - Cooperative Education (COM) Credits: 1-3
- ME 498 - Undergraduate Scholarship/Research (COM) Credits: 1-3
- NE 435-535 - Introduction to Nuclear Engineering Credits: 3
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3

### Supporting Coursework

- EE 300-300L - Basic Electrical Engineering I and Lab Credits: 3
- EE 302-302L - Basic Electrical Engineering II and Lab Credits: 3
- EM 214 - Statics (COM) Credits: 3
- EM 215 - Dynamics Credits: 3
- EM 321 - Mechanics of Materials (COM) Credits: 3
- EM 331 - Fluid Mechanics (COM) Credits: 3
- GE 101 - Introduction to Engineering and Technical Professions Credits: 1
- GE 231 - Technology, Society, and Ethics Credits: 3
- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4

- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3
  or MATH 471-571 - Numerical Analysis I (COM) Credits: 3
- PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3

**Total Required Credits: 130**

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Major Requirements | 54 Credit Hours |
| Supporting Coursework | 43 Credit Hours |
| Electives** | 0 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Mechanical Engineering (B.S.)

## Mechanical Engineering (B.S.) - Aerospace Engineering Specialization

### Program Coordinator/Contact

Jeffrey Doom, Associate Professor
Department of Mechanical Engineering
Crothers Engineering Hall 220, Box 2219
605-688-6703

### Program Information

Mechanical engineers design devices and systems that efficiently employ the materials and forces of nature for the benefit of society. Mechanical Engineering is an applied science profession based on mathematics, physics and chemistry. Expertise and sound judgment in application of the sciences are gained through a combination of study and practice.

Aerospace engineering is the primary field of engineering concerned with design and development of aircraft and spacecraft. Applications include traditional piloted fixed-wing and rotary-wing aircraft, as well as autonomous aircraft of various types. Satellites and other spacecraft are also among the applications of this field. Graduates in the Aerospace Engineering Specialization will be prepared to work in design of aircraft, spacecraft, propulsion systems and related components.

### Program Educational Objectives

The Mechanical Engineering program provides a learning environment that prepares graduates to achieve the following career and professional accomplishments:

- Achieve positions of increasing responsibility or leadership with employers, professional organizations, or civic organizations in recognition of professional competence and the ability to function in team environments.
- Complete licensure, certification, short courses, workshops or advanced degrees in technical or professional subject areas as they adapt to contemporary engineering practice and the global business environment.

### Student Outcomes

Upon completing the Mechanical Engineering program, the student outcomes are:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. the ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. an ability to communicate effectively with a range of audiences.
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and social contexts.
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

### Accreditation, Certification, and Licensure

The Mechanical Engineering (B.S.) program at SDSU is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org.

Upon reaching the final semester of the curriculum, Mechanical Engineering students are eligible and required to sit for the Fundamentals of Engineering (FE) Exam. This nationally administered exam is the first step in the process of becoming licensed to practice as a Professional Engineer. Each state sets its own standards for licensing. In South Dakota, after successfully completing a B.S. degree from an accredited program and passing the FE Exam, four years of engineering experience under a licensed engineer are required to be eligible to sit for the Principles and Practices of Engineering Exam. Successfully passing this exam is the final step in becoming licensed as a Professional Engineer. Information can be found at http://www.ncees.org/.

### Academic Requirements

- A combined average of "C" or better in the mechanical engineering courses.
- A combined average of "C" or better in the mathematics courses.
- A minimum grade of "C" in each of the following courses: MATH 123, MATH 125, PHYS 211, ME 311, ME 312, and all EM designated courses
- Students who fail to earn a "C" or better in any of these courses, will be required to repeat them in each subsequent semester until the requirement is met.

### Course Delivery Format

Mechanical engineering is an occupation requiring both study and practice. Instruction occurs through a combination of traditional classroom methods, laboratory exercises using contemporary engineering technologies, and design project experiences.

### Requirements for Mechanical Engineering Major - Aerospace Engineering Specialization: 130 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4

### Major Requirements

- ME 121-121L - Production and Fabrication Processes and Lab Credits: 2
- ME 212-212L - Mechanical Engineering Design Technologies and Lab Credits: 2
- ME 230-230L - Engineering Design Methods and Lab Credits: 2
- ME 241 - Engineering Materials Credits: 3
- ME 311 - Thermodynamics I Credits: 3
- ME 312 - Thermodynamics II (COM) Credits: 3
- ME 321 - Fundamentals of Machine Design Credits: 3
- ME 323 - Vibrations Credits: 3
- ME 376-376L - Measurements and Instrumentation and Lab Credits: 2
- ME 413-513 - Turbomachinery Credits: 3
- ME 415 - Heat Transfer Credits: 3
- ME 421 - Design of Machine Elements Credits: 3
- ME 431-531 - Aerodynamics Credits: 3
- ME 451 - Automatic Controls Credits: 3

- ME 452 - Dynamic Systems Lab Credits: 1
- ME 476 - Thermo-Fluids Lab Credits: 1
- ME 478 - Mechanical Systems Design I Credits: 2
- ME 479-479L - Mechanical Systems Design II and Lab (COM) Credits: 2
- ME 490-590 - Seminar (COM) Credits: 1-2

### Select from the following

Select nine credits from the following. Credits: 9

- ABE 350-350L - Hydraulic and Pneumatic Systems and Lab Credits: 3
- ME 341-341L - Metallurgy and Lab Credits: 3
- ME 417-417L/517-517L - Computer-Aided Engineering and Lab Credits: 3
- ME 433-433L/533-533L - Non-Destructive Testing and Evaluation and Lab Credits: 3
- ME 437-537 - Gas Dynamics I Credits: 3
- ME 441-541 - Robotic Systems Credits: 3
- ME 442-542 - Applications of Computational Fluid Dynamics Credits: 3

### Supporting Coursework

- EE 300-300L - Basic Electrical Engineering I and Lab Credits: 3
- EE 302-302L - Basic Electrical Engineering II and Lab Credits: 3
- EM 214 - Statics (COM) Credits: 3
- EM 215 - Dynamics Credits: 3
- EM 321 - Mechanics of Materials (COM) Credits: 3
- EM 331 - Fluid Mechanics (COM) Credits: 3
- GE 101 - Introduction to Engineering and Technical Professions Credits: 1
- GE 231 - Technology, Society, and Ethics Credits: 3
- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3
  or MATH 471-571 - Numerical Analysis I (COM) Credits: 3
- PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3

### Total Required Credits: 130

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Major Requirements | 54 Credit Hours |
| Supporting Coursework | 43 Credit Hours |
| Electives** | 0 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Mechanical Engineering (B.S.) - Aerospace Engineering Specialization

## Medical Laboratory Science (B.S.)

### Program Coordinator/Contact

Stacie Lansink, Program Director
Department of Allied and Population Health
Avera Health and Science Center
605-688-5855

### Program Information

The Medical Laboratory Science (MLS) program prepares its graduates for employment in hospital or medical laboratories. The curriculum emphasizes basic science, medical laboratory science, critical thinking and communication skills, including structured learning in the laboratories of clinical affiliated laboratories. During the first two years, students complete basic science courses necessary for entrance into the professional clinical program. Upon completion of pre-MLS requirements, students apply for entrance into the professional component of the major. The professional program consists of on-campus medical laboratory science courses and an off-campus clinical experience. The program provides the scientific background in hematology, immunohematology, urinalysis, phlebotomy, microbiology, immunology, molecular biology, clinical chemistry, and management necessary for a laboratory career.

### Program Goals

- Provide an educational program within the framework of the University setting in accordance with the Standards of Accredited Programs for the Medical Laboratory Scientist as established by the National Accrediting Agency for Clinical Laboratory Science (NAACLS).
- Provide adequate numbers of entry-level medical laboratory scientists to meet the workforce needs of the state of South Dakota and surrounding areas.
- Provide the health care community with quality individuals who are competent to conduct laboratory procedures in large medical facilities and small rural laboratories and who demonstrate positive professional attitudes, ethics and practices.

### Enabling Objectives

- Provide a curriculum that includes a general or liberal education, content specific theory and applications, technical knowledge, professionalism and clinical competence to successfully complete a national certification exam.
- Assist students in career placement by providing academic and occupational advisement.
- Instill in students a sense of professionalism, commitment to lifelong learning and academic excellence.
- Prepare students to successfully enter the health care field as competent entry-level professionals that communicate well, appreciate social diversity and possess a genuine compassion and concern for others.

### Student Learning Outcomes

In the Medical Laboratory Science major, students will:

- Apply principles of management that include administrative methodologies and assessment to clinical laboratory practice.
- Apply principles of educational methodologies including objectives and learning outcomes, domains, and Bloom's taxonomy to curriculum design, evaluation, and assessment in clinical laboratory practice and continuing professional development.
- Exercise independent judgement and critical thinking to correlate and recognize discrepancies associated with normal and abnormal test results using patient history, characteristics, and demographics.
- Evaluate, demonstrate and perform best laboratory practices as outlined in the standard operating procedures to correctly and independently follow procedures and policies to perform laboratory test procedures.
- Demonstrate effective oral or written communication with other students, faculty, patients, professional colleagues, physicians, other members of the health care team, and the public to effectively and efficiently transmit test results and instructions.
- Proficiently construct and devise written documents in accordance with quality management and quality assurance.
- Demonstrate and value professional conduct that includes compassion, concern, integrity and respect when dealing with patients, colleagues, faculty, students, physicians, other members of the health care team, and the public independent of race, sex, religion, ethnicity or diversity.
- Practice and demonstrate the use of appropriate ethical standards in all matters related to medical information and patient care including strict adherence to patient confidentiality rights as mandated by the Health Insurance Portability and Accountability Act (HIPAA).

### Medical Laboratory Science Professional Program

The Medical Laboratory Science Program accepts up to twenty-four students into the on-campus program. Applicants will be notified of the decision regarding their application in writing.

### Admissions Deadlines

- November 15 - Current SDSU Medical Laboratory Science Majors (minimum of 12 months as a designated MLS Major)
- February 15 - All other applicants, including transfer students or non-designated majors. Transfer students must be admitted to SDSU prior to applying to the MLS program.
- Any student who anticipates successful completion of the pre-MLS mathematics, science, and communication requirements prior to the admission in the fall semester is eligible to apply.

### Admission Requirements

Admission is competitive and will be determined based on the following criteria:

- Submission of cumulative GPA on a 4.0 scale of all college work completed at the time of application.
- Grade of "C" or "70%" minimum in all prerequisite courses.
- Completion of prerequisite courses CHEM 106-106L, CHEM 108-108L, BIOL 221-221L, BIOL 325-325L, STAT 281, and course or content equivalencies as approved by the MLS Academic Affairs Committee.
- Confirmation of ability to meet the non-academic Essential Functions of the program.
- Completion of an approved background check administered according to program guidelines. Expenses concurred are the student's responsibility.*
- Completion of an interview with the Medical Laboratory Science Admissions Committee.
- Completion of a writing assessment exercise.

*NOTE: An additional background check may be required prior to clinical placement, dependent on clinical affiliate requirements. Students are responsible for all costs associated with background checks.

### MLS Progression and Remediation Policies

- Medical Laboratory Science GPA Calculation
  - Medical Laboratory Science GPA is calculated using all medical laboratory science MLS prefix courses.
  - MLS courses repeated at SDSU, only the repeated grade will be used to calculate the GPA.
- Graduation
  - A student must earn a minimum 2.0 grade point average within the medical laboratory science program to qualify for graduation with a B.S. in Medical Laboratory Science.

### Refused Status

A student will be placed on refused status if the student:

- Earns a D or F in one MLS course

**Options for Students on Refused Status:**

- One D (excluding clinical experience)
  - Student earning one D in a MLS course may choose to:
    - Pursue remediation. See remediation policy.
      OR
    - Forgo remediation and repeat all MLS courses for the academic year in which the unremediated D was earned.
- Two Ds (excluding clinical experience)
  - The student may reenter the MLS program by repeating all required MLS courses for the academic year in which the second D was earned.
- Three Ds or one F that lead to a refused status require the student to schedule an appointment with the Dean of Student Services to submit an academic appeal for readmission.

### Remediation

Remediation is a second opportunity to demonstrate minimum competency in course outcomes and is defined as the process of correcting an academic deficiency. Repeating a course is not considered remediation.

**Situation that can be remediated:**

- A student is allowed to remediate one course during their academic career in the professional MLS program.
- Only one MLS grade of "D" in a lecture course can be remediated. There is no remediation for a "D" in the lab.
- A student receives a "D" on an exam/practical during a clinical experience course.

**Remediation Process**

Remediation is available as a "second chance" to make up a deficiency in one course. Multiple remediations are not allowed as this would severely change the way the MLS curriculum is delivered.

- The student requesting remediation must contact the MLS course instructor and the MLS Program Director no later than two business days (5:00 pm CST on the second day, holidays not included) after grades are required to be posted (typically midnight on the Monday after finals week in the fall, and typically midnight on the Wednesday after finals week in the spring).
- The MLS instructor for the course will create a Remediation Plan that includes student self-directed study materials, format for comprehensive assessment, the level of performance required on the assessment to achieve successful remediation, and a timeline for completion.
- The MLS Program Director and Department Head will review and approve the remediation plan.
- The student will receive the remediation plan within two business days of requesting remediation (5:00 pm CST on the second day). The plan will be provided to the student by the MLS Program Director.
- The student will sign the remediation plan indicating his/her acceptance and understanding of the plan. The signed plan will be returned to the MLS Program Director prior to the student starting his/her remediation. The form will be forwarded to the Department Head.
- If the student is remediating a MLS course offered in the fall semester, he/she is responsible for carrying out the self-remediation plan and completing the comprehensive assessment prior to the first day of classes in the spring.
- If the student is remediating a MLS course offered in the spring semester, he/she is responsible for carrying out the self-remediation plan and successfully completing the comprehensive assessment prior to June 1.
- Successful remediation will not change the course grade but will allow the student to progress on in the MLS program.
- If a student is unsuccessful in remediation, then he/she has utilized the "second chance" to make up the deficiency and therefore must submit an academic appeal to gain reentry.
- The student will be notified of the results by the Department Head.
- The completed Request for Remediation will be placed in the student's folder.
- A student receiving two "D"s on any exams/practicals during clinicals, and their exam average is below 70% during their clinical experience can have these replaced by a "C" if they receive at least a 70% on the final comprehensive exam taken at the end of the clinical experience.

### Accreditation, Certification, and Licensure

### Accreditation

The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Rd. Suite 720, Rosemont, IL 60018-5119.

### Certification

Graduates will be eligible to take the certification examination as a medical laboratory scientist from the Board of Certification by the American Society of Clinical Pathologists.

### Licensure

Licensure requirements will vary by state.

### Course Delivery Format

MLS courses are delivered through lecture, discussion, laboratory, and clinical practice experiences. The on campus program consists of lectures and laboratory courses that provide hands-on skills and technical training. The MLS program is a technology and lap-top based program. Course materials are provided electronically utilizing the Desire2Learn course management system.

Clinical Practice Experience courses will be completed at a clinical affiliate site. Placement at the clinical affiliate will be made in consultation with clinical affiliates and the MLS program faculty. Current available sites are Avera Health System facilities, Essentia Health Care System facilities, Madison Community Hospital, VA Regional Medical Center Sioux Falls, Prairie Lakes Healthcare, Monument Health, and Sanford Health Network Affiliated Hospitals. This list is not all inclusive and may change as affiliations and availability of sites are updated periodically. Availability of clinical placement is not guaranteed.

### Requirements for Medical Laboratory Science Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1

### Major Requirements

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
- MLS 201 - Understanding Medical Laboratory Science Credits: 2
- MLS 301-301L - Hematology I and Lab Credits: 2, 1
- MLS 311 - Clinical Chemistry I Credits: 4
- MLS 341 - Diagnostic Microbiology I Credits: 3
- MLS 341L - Diagnostic Microbiology I Lab Credits: 2
- MLS 401 - Hematology II and Hemostasis Credits: 3
- MLS 402L - Advanced Hematology and Hemostasis Lab Credits: 1
- MLS 403 - Diagnostic Immunology Credits: 3
- MLS 403L - Diagnostic Immunology Lab Credits: 1
- MLS 411-411L - Clinical Chemistry II and Lab Credits: 3, 1
- MLS 412 - Laboratory Methods Credits: 3
- MLS 412L - Laboratory Methods Lab Credits: 1
- MLS 431 - Principles of Immunohematology Credits: 2
- MLS 431L - Immunohematology Laboratory Credits: 1
- MLS 441 - Diagnostic Microbiology II Credits: 3
- MLS 441L - Diagnostic Microbiology II Lab Credits: 2
- MLS 451 - Immunohematology II Credits: 2
- MLS 451L - Immunohematology II Lab Credits: 1
- MLS 461 - Introduction to Management and Education Credits: 3
- MLS 471 - Advanced Medical Diagnostics Credits: 2
- MLS 471L - Advanced Medical Diagnostics Lab Credits: 2
- MLS 472 - Advanced Clinical Experience I Credits: 8
- MLS 473 - Advanced Clinical Diagnostics I Credits: 3
- MLS 474 - Advanced Clinical Diagnostics II Credits: 3
- MLS 475 - Advanced Clinical Experience II Credits: 3
- MLS 483 - Senior Capstone Clinical Experience Credits: 3
- MLS 489 - Phlebotomy Clinical Experience Credits: 1

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Major Requirements | 80 Credit Hours |
| Electives** | 7 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Medical Laboratory Science (B.S.)

## Medical Laboratory Science (B.S.) - Accelerated Program

### Program Coordinator/Contact

Stacie Lansink, Program Director
Department of Allied and Population Health
Avera Health and Science Center
605-688-5855

### Program Information

The Medical Laboratory Science (MLS) accelerated program prepares its graduates for employment in hospital or medical laboratories. The curriculum emphasizes basic science, medical laboratory science, critical thinking and communication skills, including structured learning in clinical affiliated laboratories. The accelerated option is for students who have completed a minimum of 90 credits towards a bachelor's degree or have completed a bachelor's program. The 16-month program consists of online medical laboratory science courses, on campus laboratory courses for hands-on skills and technical training, and an off-campus clinical experience. The program provides the scientific background in hematology, immunohematology, urinalysis, phlebotomy, microbiology, immunology, molecular biology, clinical chemistry, and management necessary for a laboratory career.

### Program Goals

- Provide an educational program within the framework of the University setting in accordance with the Standards of Accredited Programs for the Medical Laboratory Scientist as established by the National Accrediting Agency for Clinical Laboratory Science (NAACLS).
- Provide adequate numbers of entry-level medical laboratory scientists to meet the workforce needs of the state of South Dakota and surrounding areas.
- Provide the health care community with quality individuals who are competent to conduct laboratory procedures in large medical facilities and small rural laboratories and who demonstrate positive professional attitudes, ethics and practices.

### Enabling Objectives

- Provide a curriculum that includes a general or liberal education, content specific theory and applications, technical knowledge, professionalism and clinical competence to successfully complete a national certification exam.
- Assist students in career placement by providing academic and occupational advisement.
- Instill in students a sense of professionalism, commitment to lifelong learning and academic excellence.
- Prepare students to successfully enter the health care field as competent entry-level professionals that communicate well, appreciate social diversity and possess a genuine compassion and concern for others.

### Student Learning Outcomes

In the Medical Laboratory Science major, students will:

- Apply principles of management that include administrative methodologies and assessment to clinical laboratory practice.
- Apply principles of educational methodologies including objectives and learning outcomes, domains, and Bloom's taxonomy to curriculum design, evaluation, and assessment in clinical laboratory practice and continuing professional development.
- Exercise independent judgement and critical thinking to correlate and recognize discrepancies associated with normal and abnormal test results using patient history, characteristics, and demographics.
- Evaluate, demonstrate and perform best laboratory practices as outlined in the standard operating procedures to correctly and independently follow procedures and policies to perform laboratory test procedures.
- Demonstrate effective oral or written communication with other students, faculty, patients, professional colleagues, physicians, other members of the health care team, and the public to effectively and efficiently transmit test results and instructions.
- Proficiently construct and devise written documents in accordance with quality management and quality assurance.
- Demonstrate and value professional conduct that includes compassion, concern, integrity and respect when dealing with patients, colleagues, faculty, students, physicians, other members of the health care team, and the public independent of race, sex, religion, ethnicity or diversity.
- Practice and demonstrate the use of appropriate ethical standards in all matters related to medical information and patient care including strict adherence to patient confidentiality rights as mandated by the Health Insurance Portability and Accountability Act (HIPAA).

### Medical Laboratory Science Professional Program

The Medical Laboratory Science Program accepts up to 24 students into the accelerated program. Applicants will be notified of the decision regarding their application in writing.

### Admissions Deadlines

- Prospective students should submit the online application by June 30.
- Transfer students must be admitted to SDSU prior to applying to the MLS program.
- Any student who anticipates successful completion of the pre-MLS mathematics, science, and communication requirements and the overall completed credit requirement prior to the admission in the fall semester is eligible to apply.

### Admission Requirements

Admission to the Medical Laboratory Science Accelerated Program will require:

- Completion of all System General Education Requirements.
- Completed coursework in anatomy, physiology, general or introductory microbiology with a lab, STAT 281 or equivalent, and CHEM 106-106L and CHEM 108-108L or equivalent
- Completion of a minimum of 90 credits of coursework.

### MLS Progression and Remediation Policies

- Medical Laboratory Science GPA Calculation
  - Medical Laboratory Science GPA is calculated using all medical laboratory science MLS prefix courses.
  - MLS courses repeated at SDSU, only the repeated grade will be used to calculate the GPA.
- Graduation
  - A student must earn a minimum 2.0 grade point average within the medical laboratory science program to qualify for graduation with a B.S. in Medical Laboratory Science.

### Refused Status

A student will be placed on refused status if the student:

- Earns a D or F in one MLS course

**Options for Students on Refused Status:**

- One D (excluding clinical experience)
  - Student earning one D in a MLS course may choose to:
    - Pursue remediation. See remediation policy.
      OR
    - Forgo remediation and repeat all MLS courses for the academic year in which the unremediated D was earned.
- Two Ds (excluding clinical experience)
  - The student may reenter the MLS program by repeating all required MLS courses for the academic year in which the second D was earned.
- Three Ds or one F that lead to a refused status require the student to schedule an appointment with the Dean of Student Services to submit an academic appeal for readmission.

### Remediation

Remediation is a second opportunity to demonstrate minimum competency in course outcomes and is defined as the process of correcting an academic deficiency. Repeating a course is not considered remediation.

**Situation that can be remediated:**

- A student is allowed to remediate one course during their academic career in the professional MLS program.
- Only one MLS grade of "D" in a lecture course can be remediated. There is no remediation for a "D" in the lab.
- A student receives a "D" on an exam/practical during a clinical experience course.

**Remediation Process**

Remediation is available as a "second chance" to make up a deficiency in one course. Multiple remediations are not allowed as this would severely change the way the MLS curriculum is delivered.

- The student requesting remediation must contact the MLS course instructor and the MLS Program Director no later than two business days (5:00 pm CST on the second day, holidays not included) after grades are required to be posted (typically midnight on the Monday after finals week in the fall, and typically midnight on the Wednesday after finals week in the spring).
- The MLS instructor for the course will create a Remediation Plan that includes student self-directed study materials, format for comprehensive assessment, the level of performance required on the assessment to achieve successful remediation, and a timeline for completion.
- The MLS Program Director and Department Head will review and approve the remediation plan.
- The student will receive the remediation plan within two business days of requesting remediation (5:00 pm CST on the second day). The plan will be provided to the student by the MLS Program Director.
- The student will sign the remediation plan indicating his/her acceptance and understanding of the plan. The signed plan will be returned to the MLS Program Director prior to the student starting his/her remediation. The form will be forwarded to the Department Head.
- If the student is remediating a MLS course offered in the fall semester, he/she is responsible for carrying out the self-remediation plan and completing the comprehensive assessment prior to the first day of classes in the spring.
- If the student is remediating a MLS course offered in the spring semester, he/she is responsible for carrying out the self-remediation plan and successfully completing the comprehensive assessment prior to June 1.
- Successful remediation will not change the course grade but will allow the student to progress on in the MLS program.
- If a student is unsuccessful in remediation, then he/she has utilized the "second chance" to make up the deficiency and therefore must submit an academic appeal to gain reentry.
- The student will be notified of the results by the Department Head.
- The completed Request for Remediation will be placed in the student's folder.
- A student receiving two "D"s on any exams/practicals during clinicals, and their exam average is below 70% during their clinical experience can have these replaced by a "C" if they receive at least a 70% on the final comprehensive exam taken at the end of the clinical experience.

### Accreditation, Certification, and Licensure

### Accreditation

The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Rd. Suite 720, Rosemont, IL 60018-5119.

### Certification

Graduates will be eligible to take the certification examination as a medical laboratory scientist from the Board of Certification by the American Society of Clinical Pathologists.

### Licensure

Licensure requirements will vary by state.

### Course Delivery Format

MLS courses are delivered through lecture, discussion, laboratory, and clinical practice experiences. The accelerated program consists of online medical laboratory science courses, on campus laboratory courses for hands-on skills and technical training, and an off-campus clinical experience. A laptop is required, and course materials are provided electronically utilizing the Desire2Learn course management system.

Clinical Practice Experience courses will be completed at a clinical affiliate site. Placement at the clinical affiliate will be made in consultation with clinical affiliates and the MLS program faculty. Current available sites are Avera Health System facilities, Essentia Health Care System facilities, Madison Community Hospital, VA Regional Medical Center Sioux Falls, Prairie Lakes Healthcare, Monument Health, and Sanford Health Network Affiliated Hospitals. This list is not all inclusive and may change as affiliations and availability of sites are updated periodically. Availability of clinical placement is not guaranteed.

### Requirements for Medical Laboratory Science Major - Accelerated Program: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1

### Major Requirements

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4 or MICR 233-233L - Introductory Microbiology and Lab Credits: 4
- MLS 201 - Understanding Medical Laboratory Science Credits: 2
- MLS 301-301L - Hematology I and Lab Credits: 2, 1
- MLS 311 - Clinical Chemistry I Credits: 4

- MLS 341 - Diagnostic Microbiology I Credits: 3
- MLS 401 - Hematology II and Hemostasis Credits: 3
- MLS 402L - Advanced Hematology and Hemostasis Lab Credits: 1
- MLS 403 - Diagnostic Immunology Credits: 3
- MLS 411-411L - Clinical Chemistry II and Lab Credits: 3, 1
- MLS 412 - Laboratory Methods Credits: 3
- MLS 431 - Principles of Immunohematology Credits: 2
- MLS 441 - Diagnostic Microbiology II Credits: 3
- MLS 441L - Diagnostic Microbiology II Lab Credits: 2
- MLS 451 - Immunohematology II Credits: 2
- MLS 451L - Immunohematology II Lab Credits: 1
- MLS 461 - Introduction to Management and Education Credits: 3
- MLS 471 - Advanced Medical Diagnostics Credits: 2
- MLS 471L - Advanced Medical Diagnostics Lab Credits: 2
- MLS 472 - Advanced Clinical Experience I Credits: 8
- MLS 473 - Advanced Clinical Diagnostics I Credits: 3
- MLS 474 - Advanced Clinical Diagnostics II Credits: 3
- MLS 475 - Advanced Clinical Experience II Credits: 3
- MLS 483 - Senior Capstone Clinical Experience Credits: 3
- MLS 489 - Phlebotomy Clinical Experience Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

| Bachelor of Science | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Major Requirements | 82 Credit Hours |
| Electives** | 5 Credit Hours |

## Medical Laboratory Science (B.S.) - Upward Mobility Program

### Program Coordinator/Contact

Stacie Lansink, Program Director
Department of Allied and Population Health
Avera Health and Science Center
605-688-5855

### Program Information

The Upward Mobility Program provides an opportunity for Medical Laboratory Technicians to complete a bachelor's degree in medical laboratory sciences within their own clinical employment setting, utilizing a variety of online instructional approaches.

### Program Goals

- Provide an educational program within the framework of the University setting in accordance with the Standards of Accredited Programs for the Medical Laboratory Scientist as established by the National Accrediting Agency for Clinical Laboratory Science (NAACLS).
- Provide adequate numbers of entry-level medical laboratory scientists to meet the workforce needs of the state of South Dakota and surrounding areas.
- Provide the health care community with quality individuals who are competent to conduct laboratory procedures in large medical facilities and small rural laboratories and who demonstrate positive professional attitudes, ethics and practices.

### Enabling Objectives

- Provide a curriculum that includes a general or liberal education, content specific theory and applications, technical knowledge, professionalism and clinical competence to successfully complete a national certification exam.
- Assist students in career placement by providing academic and occupational advisement.
- Instill in students a sense of professionalism, commitment to lifelong learning and academic excellence.
- Prepare students to successfully enter the health care field as competent entry-level professionals that communicate well, appreciate social diversity and possess a genuine compassion and concern for others.

### Student Learning Outcomes

In the Medical Laboratory Science Upward Mobility program, students will:

- Apply principles of management that include administrative methodologies and assessment to clinical laboratory practice.
- Apply principles of educational methodologies including objectives and learning outcomes, domains, and Bloom's taxonomy to curriculum design, evaluation, and assessment in clinical laboratory practice and continuing professional development.
- Exercise independent judgement and critical thinking to correlate and recognize discrepancies associated with normal and abnormal test results using patient history, characteristics, and demographics.
- Evaluate, demonstrate and perform best laboratory practices as outlined in the standard operating procedures to correctly and independently follow procedures and policies to perform laboratory test procedures.
- Demonstrate effective oral or written communication with other students, faculty, patients, professional colleagues, physicians, other members of the health care team, and the public to effectively and efficiently transmit test results and instructions.
- Proficiently construct and devise written documents in accordance with quality management and quality assurance.
- Demonstrate and value professional conduct that includes compassion, concern, integrity and respect when dealing with patients, colleagues, faculty, students, physicians, other members of the health care team, and the public independent of race, sex, religion, ethnicity or diversity.
- Practice and demonstrate the use of appropriate ethical standards in all matters related to medical information and patient care including strict adherence to patient confidentiality rights as mandated by the Health Insurance Portability and Accountability Act (HIPAA).

### Medical Laboratory Science Upward Mobility Program

The Medical Laboratory Science Upward Mobility Program provides an educational experience for the development of responsible, competent entry-level professionals in medical laboratory science who want to further their training and education. The program accepts up to 24 in the on-line upward mobility program. Applicants will be notified of the decision regarding their application in writing.

### MLS Upward Mobility Admission Requirements

All pre-MLS Upward Mobility students must submit an online application and all required documents for the professional program. (Applications by fax or email will not be accepted.) Selection is competitive. In order to be considered for admission a student must submit and complete the following:

- Documentation of a minimum of 2 years of work experience in a clinical laboratory.
- Completion of an associate degree and certification as a CLT/MLT or equivalent.
- Provision of a signed letter of support from employer, clinical facility fact sheet, and faculty fact sheet for clinical preceptor/liaison.
- Confirmation of ability to meet the non-academic Essential Functions of the program

Up to 41 MLS credits may be awarded for work completed in an approved program, as previously outlined.

### MLS Progression and Remediation Policies

- Medical Laboratory Science GPA Calculation
  - Medical Laboratory Science GPA is calculated using all medical laboratory science MLS prefix courses.
  - MLS courses repeated at SDSU, only the repeated grade will be used to calculate the GPA.
- Graduation
  - A student must earn a minimum 2.0 grade point average within the medical laboratory science program to qualify for graduation with a B.S. in Medical Laboratory Science.

### Refused Status

A student will be placed on refused status if the student:

- Earns a D or F in one MLS course

**Options for Students on Refused Status:**

- One D (excluding clinical experience)
  - Student earning one D in a MLS course may choose to:
    - Pursue remediation. See remediation policy.
      OR

    - Forgo remediation and repeat all MLS courses for the academic year in which the unremediated D was earned.
- Two Ds (excluding clinical experience)
    - The student may reenter the MLS program by repeating all required MLS courses for the academic year in which the second D was earned.
- Three Ds or one F that lead to a refused status require the student to schedule an appointment with the Dean of Student Services to submit an academic appeal for readmission.

### Remediation

Remediation is a second opportunity to demonstrate minimum competency in course outcomes and is defined as the process of correcting an academic deficiency. Repeating a course is not considered remediation.

**Situation that can be remediated:**

- A student is allowed to remediate one course during their academic career in the professional MLS program.
- Only one MLS grade of "D" in a lecture course can be remediated. There is no remediation for a "D" in the lab.
- A student receives a "D" on an exam/practical during a clinical experience course.

**Remediation Process**

Remediation is available as a "second chance" to make up a deficiency in one course. Multiple remediations are not allowed as this would severely change the way the MLS curriculum is delivered.

- The student requesting remediation must contact the MLS course instructor and the MLS Program Director no later than two business days (5:00 pm CST on the second day, holidays not included) after grades are required to be posted (typically midnight on the Monday after finals week in the fall, and typically midnight on the Wednesday after finals week in the spring).
- The MLS instructor for the course will create a Remediation Plan that includes student self-directed study materials, format for comprehensive assessment, the level of performance required on the assessment to achieve successful remediation, and a timeline for completion.
- The MLS Program Director and Department Head will review and approve the remediation plan.
- The student will receive the remediation plan within two business days of requesting remediation (5:00 pm CST on the second day). The plan will be provided to the student by the MLS Program Director.
- The student will sign the remediation plan indicating his/her acceptance and understanding of the plan. The signed plan will be returned to the MLS Program Director prior to the student starting his/her remediation. The form will be forwarded to the Department Head.
- If the student is remediating a MLS course offered in the fall semester, he/she is responsible for carrying out the self-remediation plan and completing the comprehensive assessment prior to the first day of classes in the spring.
- If the student is remediating a MLS course offered in the spring semester, he/she is responsible for carrying out the self-remediation plan and successfully completing the comprehensive assessment prior to June 1.
- Successful remediation will not change the course grade but will allow the student to progress on in the MLS program.
- If a student is unsuccessful in remediation, then he/she has utilized the "second chance" to make up the deficiency and therefore must submit an academic appeal to gain reentry.
- The student will be notified of the results by the Department Head.
- The completed Request for Remediation will be placed in the student's folder.
- A student receiving two "D"s on any exams/practicals during clinicals, and their exam average is below 70% during their clinical experience can have these replaced by a "C" if they receive at least a 70% on the final comprehensive exam taken at the end of the clinical experience.

### Accreditation, Certification, and Licensure

### Accreditation

The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Rd. Suite 720, Rosemont, IL 60018-5119.

### Certification

Graduates will be eligible to take the certification examination as a medical laboratory scientist from the Board of Certification by the American Society of Clinical Pathologists.

### Licensure

Licensure requirements will vary by state.

### Course Delivery Format

MLS courses are delivered through lecture, discussion, laboratory electronic simulation, and clinical practice experiences. Course materials are provided electronically utilizing the Desire2Learn course management system. Clinical Practice courses are completed at a clinical affiliate site.

### Requirements for Medical Laboratory Science Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 ** and CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1 **

### Major Requirements

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4 **
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4 **
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
- MLS 201 - Understanding Medical Laboratory Science Credits: 2
- MLS 301-301L - Hematology I and Lab Credits: 2, 1 **
- MLS 311 - Clinical Chemistry I Credits: 4 **
- MLS 312 - MLT to MLS Transitional Experience Credits: 3
- MLS 341 - Diagnostic Microbiology I Credits: 3
- MLS 341L - Diagnostic Microbiology I Lab Credits: 2 **
- MLS 401 - Hematology II and Hemostasis Credits: 3
- MLS 402L - Advanced Hematology and Hemostasis Lab Credits: 1 **
- MLS 403 - Diagnostic Immunology Credits: 3
- MLS 403L - Diagnostic Immunology Lab Credits: 1 **
- MLS 411-411L - Clinical Chemistry II and Lab Credits: 3, 1 **
- MLS 412 - Laboratory Methods Credits: 3 **
- MLS 412L - Laboratory Methods Lab Credits: 1 **
- MLS 431 - Principles of Immunohematology Credits: 2
- MLS 431L - Immunohematology Laboratory Credits: 1 **
- MLS 441 - Diagnostic Microbiology II Credits: 3
- MLS 441L - Diagnostic Microbiology II Lab Credits: 2 **
- MLS 451 - Immunohematology II Credits: 2
- MLS 451L - Immunohematology II Lab Credits: 1 **
- MLS 461 - Introduction to Management and Education Credits: 3
- MLS 468 - Advanced Supervised Clinical Experience I Credits: 1-5 (5 credits required)
- MLS 469 - Advanced Supervised Clinical Experience II Credits: 1-5 (5 credits required)
- MLS 471 - Advanced Medical Diagnostics Credits: 2
- MLS 471L - Advanced Medical Diagnostics Lab Credits: 2 **
- MLS 483 - Senior Capstone Clinical Experience Credits: 3

**Transfer of 18-41 Credit Satisfying Requirements Above**

- MLS 368 - Medical Laboratory Science Transfer Credit Credits: 18-41

**Courses that may be met in this way include: up to 19 credits in MLS 201, MLS 301-301L, MLS 311, MLS 341L, MLS 402L, MLS 403L, MLS 411L, MLS 412-412L, MLS 441L, MLS 431L, MLS 451L, MLS 471L; 5 clinical course credits; 12 credits of CHEM 106-106L, CHEM 108-108L, BIOL 221-221L and BIOL 325-325L. MLS 368 (transfer credits) may account for 10 of 18 required credits of clinicals courses include MLS 472, MLS 473, MLS 474, MLS 475, MLS 489.

### Electives

Taken as needed to complete any additional degree requirements.

**Total Required Credits: 120**

**Summary of Program Requirements**

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Major Requirements | 83 Credit Hours |
| Electives** | 4 Credit Hours |

**Taken as needed to complete any additional degree requirements.

## Microbiology (B.S.)

### Program Contact/Coordinator

Radhey Kaushik, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141

### Program Information

The program provides students with a broad background in all facets of microbiology, preparing them to pursue careers in diagnostic and research laboratories, public health, agriculture, food industry, pharmaceutical companies, academia, governmental agencies, and the private sector. With the recommended electives, the graduate is prepared to pursue health-related professional or graduate education for advanced training. The goal is to provide a sound but varied educational experience.

### Student Learning Outcomes

Upon completion of the Microbiology major, students will:

- Demonstrate understanding and application of evolution; biological structure and function; biological and biochemical pathways and transformations of energy and matter; and biological systems.
- Apply the process of science.
- Demonstrate understanding of and application of quantitative reasoning; information flow, exchange, and storage in microorganisms; relationship between science and society.
- Demonstrate knowledge on how microorganisms interact with and impact their environment and the interaction between microorganisms and humans, animals and plants.
- Describe and use new and existing methods and technologies in and out of the laboratory setting.
- Tap into the interdisciplinary nature of science.
- Communicate and collaborate with other disciplines.

### Academic Requirements

A minimum GPA of 2.0 must be maintained in the major courses.

### Course Delivery Format

Program coursework is on-campus, in classrooms and laboratories, as well as field-based settings. Additional coursework is available at off-campus attendance centers. Limited coursework is available online.

### Requirements for Microbiology Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 115 - Precalculus (COM) [SGR #5] Credits: 5 or higher SGR #5 MATH course Credits: 3-5
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4

### Department of Biology and Microbiology Requirements

- 25 semester credits must be upper division (300 and above), with the exception that MATH 125 and 225, Calculus II and III, may be counted as five credits toward the total.
- Students must complete a minimum of 33 credits from the natural sciences. Refer to departments offering the degree for specific course listings.

### Major Requirements

- BIOL 119 - First Year Seminar Credits: 2
- BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1
- BIOL 204-204L - Introduction to Cell Biology and Lab (COM) Credits: 3, 1
- BIOL 290 - Seminar (COM) Credits: 1
  or MICR 290 - Seminar (COM) Credits: 1
- BIOL 383 - Bioethics (COM) Credits: 4
- MICR 233-233L - Introductory Microbiology and Lab Credits: 4
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MICR 439-539 - Medical and Veterinary Immunology Credits: 3
- MICR 448-548 - Molecular and Microbial Genetics Credits: 4

### Applied and Environmental Microbiology

Select at least two courses from the following. Credits: 6-8

- BIOL 235-235L - Introduction to Biotechnology and Lab (COM) Credits: 3
- MICR 450 - Applied Microbiology and Biotechnology Credits: 3
- MICR 421-421L/521-521L - Soil Microbiology and Lab Credits: 3
- MICR 310-310L - Environmental Microbiology and Lab Credits: 4
- MICR 311-311L - Food Microbiology and Lab Credits: 4

### Infectious Disease

Select at least two courses from the following. Credits: 6

- MICR 424-524 - Medical and Veterinary Virology Credits: 3
- MICR 433-533 - Medical Microbiology (COM) Credits: 3
- MICR 440L - Infectious Disease Lab Credits: 3

### Capstone and Advanced Writing

- ENGL 379 - Technical Communication (COM) Credits: 3 (Section: Biology & Microbiology)
- MICR 490-590 - Seminar (COM) Credits: 1-6 (2 credits required)

### Chemistry

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1

### Physics

- PHYS Electives Credits: 4

### Mathematics

- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Electives

**Total Required Credits: 120**

**Summary of Program Requirements**

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32-34 Credit Hours |
| Major Requirements | 74-76 Credit Hours |
| Electives** | 10-14 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Microbiology (B.S.)

## Music (B.A.) - Music Entrepreneurship Specialization

### Program Coordinator/Contact

David Reynolds, Director
School of Performing Arts
Oscar Larson Performing Arts Center 123B, Box 2830
605-688-5187

### Program Information

This degree is designed for students who enjoy music but want a career option outside of performing or teaching music. The program prepares students for careers in music manufacturing, retail sales, music production, publishing, arts management, industry, and a variety of other fields. An on-the-job internship experience is included as part of the professional requirement for the degree.

### Student Learning Outcomes

Music Entrepreneurship students will:

- Analyze, synthesize, and create music as a means of supporting developing careers in music education and/or performance.
- Be able to perform as soloists, ensemble members, and/or chamber musicians at appropriate levels for their concentration.
- Integrative Learning
- Demonstrate proficient knowledge of the information literacy as pertained to research method—specifically when it comes to researching and writing about music.
- SLO 5 (Diversity and Inclusion) will be assessed through learning opportunities presented in the first-year MUS 119 course, reinforced through discussion of MUEN programming, and through progress in projects associated with MUS 130, World Music. Data will be collected and analyzed every three years and stored in the Music office. Benchmark for success is that 80% of students will demonstrate proficient knowledge of the diversity of values, beliefs, practices, and ideas embodied in the discipline of music.

### Music Program Application Requirements

1. Admission as a music major in any of the music degree programs requires the successful completion of an audition in the student's major area of applied instruction.
2. Music majors in all degree programs must choose one area of applied instruction in which to specialize. Further, students must meet the applied proficiency standards of the program in that area. To that end, students must:
    1. successfully complete a jury examination each semester.
    2. apply for and be granted approval to advance to upper level applied study (300-400 levels).
    3. complete a minimum of 6 hours of upper level (300-400) applied study
3. Piano proficiency is required of all majors. Several approaches to meeting the requirements are available. See the Student Handbook published and available from the program for more specifics. The piano proficiency must be passed before the senior recital may be scheduled.
4. Voice or instrumental proficiency is required of all keyboard majors.
5. Ensemble Requirements:
    1. All music majors must participate in at least one major ensemble each semester they are enrolled as a regular university student (Internship and Student Teaching semesters excepted). See the Student Handbook for more details.
    2. Participation in small ensembles is strongly encouraged for all majors and minors.
6. A minimum of five pedagogy courses is required for students in the B.M.E program, and while the required pedagogies develop proficiencies within the areas of specialization for B.M.E. students, a functional knowledge of instrumental or vocal techniques outside the specialty is also essential. For instrumental B.M.E. majors, this must include one semester each of string, woodwind, brass, and percussion pedagogies. Six semesters will assure the broadest preparation through multiple levels of woodwind and brass pedagogy. In addition, instrumental B.M.E. majors must take MUS 270/MUS 271 general voice for instrument majors. For vocal B.M.E. majors, the four required semesters of vocal pedagogy are augmented by MUS 270/MUS 271 general instrument for voice majors.
7. Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her advisor.
8. Recommendations for music entrepreneurship students wishing to enroll for the Internship experience must be issued by the program Coordinator.
9. A senior recital is required of all music majors.
10. Majors and minors must enroll for Recital Attendance (MUS 185) each semester they are enrolled for applied music lessons.

### Academic Requirements

A grade of "C" or above is required in all MUS, MUEN, MUAP and entrepreneurial specialization courses.

### Course Delivery Format

The program offers coursework in classroom, studio, and performance settings. The program allows for internship experiences and independent studies.

### Requirements for Music Major - Music Entrepreneurship Specialization: 120 Credits

*Bachelor of Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Elective Credits: 6 (Select Modern Language Courses)
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts specifications.

### Major Requirements

- MUS 110 - Music Theory I (COM) Credits: 4
- MUS 110L - Aural Skills I (COM) Credits: 0
- MUS 111 - Music Theory II (COM) Credits: 4
- MUS 111L - Aural Skills II (COM) Credits: 0
- MUS 119 - First Year Seminar Credits: 2
- MUS 130 - Music Literature and History I [SGR #4] Credits: 2
- MUS 185 - Recital Attendance (COM) Credits: 0 [1]
- MUS 201 - History of Country Music [SGR #4] Credits: 3
- MUS 203 - Blues, Jazz, and Rock [SGR #4] Credits: 3
- MUS 210 - Music Theory III (COM) Credits: 4
- MUS 210L - Aural Skills III (COM) Credits: 0
- MUS 211 - Music Theory IV (COM) Credits: 4
- MUS 211L - Aural Skills IV (COM) Credits: 0
- MUS 304 - Introduction to the Music Industry Credits: 3
- MUS 305 - Introduction to Recording Industry Credits: 3
- MUS 433 - Music Literature and History III Credits: 3
- MUS 494 - Internship (COM) Credits: 1-16 (3 credits required) (Capstone)
- MUAP 1XX/2XX - Applied Music Credits: 4
- MUAP 115 - Class Instruction - Keyboard (COM) Credits: 1-2 (2 credits required)
- MUEN 1XX - Music Ensemble Credits: 4
- MUEN 3XX - Music Ensemble Credits: 3

### Entrepreneurship Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ADV 370 - Advertising Principles (COM) Credits: 3

- ENTR 236 - Innovation and Creativity Credits: 3
- ENTR 237 - Entrepreneurship Development Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Notes

[1] MUS 185 must have concurrent enrollment with all MUAP courses.

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 72 Credit Hours |
| Electives** | 15 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Music (B.A.) - Music Entrepreneurship Specialization

## Music (B.A.) - Music Studies Specialization

### Program Coordinator/Contact

David Reynolds, Director
School of Performing Arts
Oscar Larson Performing Arts Center 123B, Box 2830
605-688-5187

### Program Information

This program takes advantage of the types of courses central to a liberal arts education. Although the degree is not tied to any specific career aspiration, students often use the degree as preparation for careers in musicology, composing, music librarianship, and private studio teaching. The flexibility of the curriculum is also used by students desiring a performance-based course of study and to prepare for graduate school.

### Student Learning Outcomes

Music Studies students will:

- Analyze, synthesize, and create music as a means of supporting developing careers in music education and/or performance.
- Be able to perform as soloists, ensemble members, and/or chamber musicians at appropriate levels for their concentration.
- Integrative Learning
- Demonstrate proficient knowledge of the information literacy as pertained to research method—specifically when it comes to researching and writing about music.
- SLO 5 (Diversity and Inclusion) will be assessed through learning opportunities presented in the first-year MUS 119 course, reinforced through discussion of MUEN programming, and through progress in projects associated with MUS 130, World Music. Data will be collected and analyzed every three years and stored in the Music office. Benchmark for success is that 80% of students will demonstrate proficient knowledge of the diversity of values, beliefs, practices, and ideas embodied in the discipline of music.

### Music Program Application Requirements

1. Admission as a music major in any of the music degree programs requires the successful completion of an audition in the student's major area of applied instruction.
2. Music majors in all degree programs must choose one area of applied instruction in which to specialize. Further, students must meet the applied proficiency standards of the program in that area. To that end, students must:
    1. successfully complete a jury examination each semester.
    2. apply for and be granted approval to advance to upper level applied study (300-400 levels).
    3. complete a minimum of 6 hours of upper level (300-400) applied study
3. Piano proficiency is required of all majors. Several approaches to meeting the requirements are available. See the Student Handbook published and available from the program for more specifics. The piano proficiency must be passed before the senior recital may be scheduled.
4. Voice or instrumental proficiency is required of all keyboard majors.
5. Ensemble Requirements:
    1. All music majors must participate in at least one major ensemble each semester they are enrolled as a regular university student (Internship and Student Teaching semesters excepted). See the Student Handbook for more details.
    2. Participation in small ensembles is strongly encouraged for all majors and minors.
6. A minimum of five pedagogy courses is required for students in the B.M.E program, and while the required pedagogies develop proficiencies within the areas of specialization for B.M.E. students, a functional knowledge of instrumental or vocal techniques outside the specialty is also essential. For instrumental B.M.E. majors, this must include one semester each of string, woodwind, brass, and percussion pedagogies. Six semesters will assure the broadest preparation through multiple levels of woodwind and brass pedagogy. In addition, instrumental B.M.E. majors must take MUS 270/MUS 271 general voice for instrument majors. For vocal B.M.E. majors, the four required semesters of vocal pedagogy are augmented by MUS 270/MUS 271 general instrument for voice majors.
7. Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her advisor.
8. Recommendations for music entrepreneurship students wishing to enroll for the Internship experience must be issued by the program Coordinator.
9. A senior recital is required of all music majors.
10. Majors and minors must enroll for Recital Attendance (MUS 185) each semester they are enrolled for applied music lessons.

### Academic Requirements

A grade of "C" or above is required in all major MUS, MUEN and MUAP courses.

### Course Delivery Format

The program offers coursework in classroom, studio, and performance settings. The program allows for internship experiences and independent studies.

### Requirements for Music Major - Music Studies Specialization: 120 Credits

*Bachelor of Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6 (Select Modern Language Courses)
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts specifications.

### Major Requirements

- MUS 110 - Music Theory I (COM) Credits: 4
- MUS 110L - Aural Skills I (COM) Credits: 0
- MUS 111 - Music Theory II (COM) Credits: 4
- MUS 111L - Aural Skills II (COM) Credits: 0
- MUS 119 - First Year Seminar Credits: 2
- MUS 130 - Music Literature and History I [SGR #4] Credits: 2
- MUS 131 - Music Literature and History II [SGR #4] Credits: 3
- MUS 185 - Recital Attendance (COM) Credits: 0 [1]
- MUS 210 - Music Theory III (COM) Credits: 4
- MUS 210L - Aural Skills III (COM) Credits: 0
- MUS 211 - Music Theory IV (COM) Credits: 4
- MUS 211L - Aural Skills IV (COM) Credits: 0
- MUS 270 - Pedagogy I Credits: 1-2
- MUS 313 - Form and Analysis (COM) Credits: 3
- MUS 360-360L - Conducting (COM) Credits: 2
- MUS 433 - Music Literature and History III Credits: 3
- MUAP 1XX/2XX - Applied Music Credits: 4
- MUAP 3XX/4XX - Applied Music Credits: 8
- MUAP 483 - Public Recital (COM) Credits: 0 [2] (Capstone)
- MUEN 1XX - Music Ensemble Credits: 4
- MUEN 3XX - Music Ensemble Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Notes

[1] MUS 185 must have concurrent enrollment with all MUAP courses.
[2] MUAP 483 must have concurrent enrollment with final MUAP 4XX.

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 52 Credit Hours |
| Electives** | 35 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Music (B.A.) - Music Studies Specialization

## Music Education (B.M.E.)

### Program Coordinator/Contact

David Reynolds, Director
School of Performing Arts
Oscar Larson Performing Arts Center 123B, Box 2830
605-688-5187

### Program Information

This program is recommended for students interested in becoming certified to teach elementary and secondary school music. An emphasis in choral or instrumental teaching may be elected, or, by adding appropriate hours, students may prepare in both areas. Those preparing in both areas must complete both choral and instrumental music education sequences, including both sets of pedagogies.

### Student Learning Outcomes

Music Education students will:

- Analyze, synthesize, and create music as a means of supporting developing careers in music education and/or performance.
- Perform as soloists, ensemble members, and/or chamber musicians at appropriate levels for their concentration.
- Work on musical problems by combining as appropriate their capabilities in performance; aural, verbal, and visual analysis; composition/improvisation; and history and repertory.
- Find and use relevant information from a variety of sources to communicate sophisticated viewpoints regarding music and other subjects.
- SLO 5 (Diversity and Inclusion) will be assessed through learning opportunities presented in the first-year MUS 119 course, reinforced through discussion of MUEN programming, and through progress in projects associated with MUS 130, World Music. Data will be collected and analyzed every three years and stored in the Music office. Benchmark for success is that 80% of students will demonstrate proficient knowledge of the diversity of values, beliefs, practices, and ideas embodied in the discipline of music.

### Music Program Application Requirements

1. Admission as a music major in any of the music degree programs requires the successful completion of an audition in the student's major area of applied instruction.
2. Music majors in all degree programs must choose one area of applied instruction in which to specialize. Further, students must meet the applied proficiency standards of the program in that area. To that end, students must:
    1. successfully complete a jury examination each semester.
    2. apply for and be granted approval to advance to upper level applied study (300-400 levels).
    3. complete a minimum of 6 hours of upper level (300-400) applied study
3. Piano proficiency is required of all majors. Several approaches to meeting the requirements are available. See the Student Handbook published and available from the program for more specifics. The piano proficiency must be passed before the senior recital may be scheduled.
4. Voice or instrumental proficiency is required of all keyboard majors.
5. Ensemble Requirements:
    1. All music majors must participate in at least one major ensemble each semester they are enrolled as a regular university student (Internship and Student Teaching semesters excepted). See the Student Handbook for more details.
    2. Participation in small ensembles is strongly encouraged for all majors and minors.
6. A minimum of five pedagogy courses is required for students in the B.M.E program, and while the required pedagogies develop proficiencies within the areas of specialization for B.M.E. students, a functional knowledge of instrumental or vocal techniques outside the specialty is also essential. For instrumental B.M.E. majors, this must include one semester each of string, woodwind, brass, and percussion pedagogies. Six semesters will assure the broadest preparation through multiple levels of woodwind and brass pedagogy. In addition, instrumental B.M.E. majors must take MUS 270/MUS 271 general voice for instrument majors. For vocal B.M.E. majors, the four required semesters of vocal pedagogy are augmented by MUS 270/MUS 271 general instrument for voice majors.
7. Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her advisor.
8. Recommendations for music entrepreneurship students wishing to enroll for the Internship experience must be issued by the program Coordinator.
9. A senior recital is required of all music majors.
10. Majors and minors must enroll for Recital Attendance (MUS 185) each semester they are enrolled for applied music lessons.

### Academic Requirements

- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's K-12 preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

The program offers coursework in classroom, studio, and performance settings. The program allows for internship experiences and independent studies.

### Requirements for Music Education Major: 126 Major

*Bachelor of Music Education*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 or SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: MUS 130 - Music Literature and History I [SGR #4] Credits: 2, MUS 131 - Music Literature and History II [SGR #4] Credits: 3, and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Music Education Requirements: 6

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3 (Teaching Specialization Requirements)
- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 (SGR #3) or SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3 (SGR #3)
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Music Education specifications.

### Major Requirements

- MUS 119 - First Year Seminar Credits: 2
- MUS, MUAP, MUEN Elective Credits: 2

### Applied Music

- MUAP 100-155 - Applied Music Credits: 2
- MUAP 200-255 - Applied Music Credits: 2
- MUAP 300-355 - Applied Music Credits: 4
- MUAP 400-455 - Applied Music Credits: 2

### Music Ensemble

- MUEN 100-122 - Music Organization Credits: 4
- MUEN 300-322 - Music Organization Credits: 3
- MUEN 100-122 - Music Organization Credits: 2
  or MUEN 300-322 - Music Organization Credits: 2
  (Two ensemble credits must be in an area different than the major emphasis.)

### Music Theory and Lab

- MUS 110 - Music Theory I (COM) Credits: 4
- MUS 110L - Aural Skills I (COM) Credits: 0
- MUS 111 - Music Theory II (COM) Credits: 4
- MUS 111L - Aural Skills II (COM) Credits: 0
- MUS 210 - Music Theory III (COM) Credits: 4
- MUS 210L - Aural Skills III (COM) Credits: 0
- MUS 211 - Music Theory IV (COM) Credits: 4
- MUS 211L - Aural Skills IV (COM) Credits: 0

### Music Literature and History

- MUS 130 - Music Literature and History I [SGR #4] Credits: 2 (SGR #4)
- MUS 131 - Music Literature and History II [SGR #4] Credits: 3 (SGR #4)
- MUS 433 - Music Literature and History III Credits: 3

### Recital

- MUS 185 - Recital Attendance (COM) Credits: 0 [1]
- MUAP 483 - Public Recital (COM) Credits: 0 [2] (Capstone)

### Music Methods

- MUS 313 - Form and Analysis (COM) Credits: 3
- MUS 351 - Elementary School Music Methods (COM) Credits: 2-3
- MUS 355 - Computer Based Technology and Learning for Music Educators Credits: 2
- MUS 360-360L - Conducting (COM) Credits: 2
- MUS 361-361L - Music Education II: Conducting and Lab Credits: 2
- MUS 362-362L - Music Education III: Methods and Materials Credits: 2
- MUS 365-365L - Music Education IV: Supervision and Administration of School Music and Lab Credits: 2
- MUS 420 - Orchestration and Arranging (COM) Credits: 3

### Music Pedagogy

Select six credits from the following courses. Credits: 6

- MUS 270 - Pedagogy I Credits: 1-2
- MUS 271 - Pedagogy II Credits: 1-2
- MUS 370 - Pedagogy III Credits: 1-2
- MUS 371 - Pedagogy IV Credits: 1-2

### Teaching Specialization Requirements

The Education curriculum below is unique to Music Education. Please contact the Department of Teaching, Learning and Leadership for information about other education programs.

*Complete MUS 351 - Elementary School Music Methods (COM) (2) as co-requisite to EDFN 352.
**Complete MUS 360-360L - Conducting (COM) (2) as a co-requisite to EDFN 453.

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3 *
- EDFN 453 - Teaching and Learning III Credits: 3 **
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- MUS 270 - Pedagogy I Credits: 1-2, MUS 271 - Pedagogy II Credits: 1-2, MUS 370 - Pedagogy III Credits: 1-2, and MUS 371 - Pedagogy IV Credits: 1-2 (Teaching Content Methods Requirement) (Major Requirement)
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Choral and Instrumental Emphasis

Student may elect a Choral and/or Instrumental Emphasis by adding appropriate hours.
Course sections vary based on emphasis.

- MUS 270 - Pedagogy I Credits: 1-2
- MUS 271 - Pedagogy II Credits: 1-2
- MUS 351 - Elementary School Music Methods (COM) Credits: 2-3 (2 credits required)
- MUS 360-360L - Conducting (COM) Credits: 2
- MUS 361-361L - Music Education II: Conducting and Lab Credits: 2
- MUS 362-362L - Music Education III: Methods and Materials Credits: 2
- MUS 365-365L - Music Education IV: Supervision and Administration of School Music and Lab Credits: 2
- MUS 370 - Pedagogy III Credits: 1-2

- MUS 371 - Pedagogy IV Credits: 1-2

### Total Required Credits: 126

### Notes

[1] MUS 185 must have concurrent enrollment with all MUAP courses.
[2] MUAP 483 must have concurrent enrollment with final MUAP 4XX.

### Summary of Program Requirements

### Bachelor of Music Education

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 6 Credit Hours |
| Major Requirements | 94 Credit Hours |
| Electives** | 0 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Music Education (B.M.E.)

## Natural Resource Law Enforcement (B.S.)

### Program Coordinator/Contact

Don McCrea, Instructor
Department of Natural Resource Management
Edgar S. McFadden Biostress Laboratory, Room 138
605-688-6121

### Program Information

The Natural Resource Law Enforcement program was developed in coordination with state and federal agencies to prepare students for careers as conservation officers, federal wildlife agents, park rangers, and game wardens. The curriculum is designed to provide students with a strong academic foundation that integrates natural resource management, conservation and law enforcement. Students pursue coursework in wildlife and fisheries sciences, ecology, criminal law and procedures, constitutional law, social issues, and environmental laws and policies. Students acquire skills in communication, conflict resolution, teamwork, leadership, ethics, laws and human dimensions, statistics, technology, global competence, critical thinking, and problem solving. The Natural Resource Law Enforcement Program also delivers outstanding non-traditional educational experiences to students, further increasing their opportunities for career success.

### Student Learning Outcomes

Upon completion of the Natural Resource Law Enforcement major, students will:

- Demonstrate understanding of ecological and environmental principles required for management of natural resources for multiple-uses, including (but not limited to) wildlife habitat, water management, ecosystems services, recreation, and livestock production.
- Describe how natural resource management fits into the context of society and how societal factors (e.g., economics, policy, laws, regulations, attitudes, behaviors, norms) influence natural resource management.
- Demonstrate the ability to lead and work with others as appropriate to successfully manage natural resources.
- Demonstrate appropriate use of natural resource field and lab techniques as well as contemporary technology.
- Demonstrate the ability to appropriately analyze and critically evaluate data and other information.
- Demonstrate the ability to effectively communicate (both written and orally) with both scientific and non-scientific audiences.
- Demonstrate an understanding of the professional and ethical responsibility that necessary for a natural resource professional.

### Course Delivery Format

The Natural Resource Law Enforcement program is on campus and engages students in experiential learning in lecture, laboratory, and field based settings.

### Requirements for Natural Resource Law Enforcement Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: CJUS 201 - Introduction to Criminal Justice (COM) [SGR #3] Credits: 3 and SOC 150 - Social Problems (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: Select two of the following courses: PHIL 100 - Introduction to Philosophy (COM) [SGR #4] Credits: 3, PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3, MCOM 151 - Introduction to Mass Communication (COM) [SGR #4] Credits: 3, SPAN 101 - Introductory Spanish I (COM) [SGR #4] Credits: 4, or SPAN 102 - Introductory Spanish II (COM) [SGR #4] Credits: 4
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- NRM 311 - Principles of Ecology (COM) Credits: 3 (Major Requirement)
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1 (Major Requirement)
- RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4 (Major Requirement)
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3 (Major Requirement)

### Major Requirements

- BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3
  or BOT 405-405L/505-505L - Grasses and Grasslike Plants and Lab Credits: 3
  or BOT 415-415L/515-515L - Aquatic Plants and Lab Credits: 3
  or BOT 419-419L - Plant Ecology and Lab (COM) Credits: 3
- NRM 119 - Orientation to Natural Resource Management Credits: 2
- NRM 230 - Natural Resource Management Techniques Credits: 2
- NRM 276 - Scientific Communications Credits: 1
- NRM 282-282L - Natural Resource Statistics and Lab Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3
- NRM 475-475L - Natural Resource Law Enforcement Investigations and Report Writing and Lab Credits: 2, 1
- NRM 476 - Law Enforcement Techniques for Natural Resource Officers Credits: 3
- RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- WL 355-355L - Mammalogy and Lab (COM) Credits: 3
- WL 363-363L - Ornithology and Lab (COM) Credits: 4
- WL 367-367L - Ichthyology and Lab Credits: 3
- WL 411-411L - Principles of Wildlife Management and Lab Credits: 3
- WL 412-412L - Principles of Fisheries Management and Lab Credits: 3
- WL 420 - Wildlife Law Enforcement Credits: 3
- WL 430 - Human Dimensions in Natural Resource Management Credits: 3

### Supporting Coursework

- CJUS 338 - Constitutional Law: Civil Rights and Liberties Credits: 3
  or SOC 325 - Domestic and Intimate Violence (COM) Credits: 3
- CJUS 334 - Criminal Investigation (COM) Credits: 3

- CJUS 412 - Criminal Prosecution and Defense (COM) Credits: 3
- CJUS 431 - Criminal Law (COM) Credits: 3
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- SOC 351 - Criminology (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.
Students may elect to complete one of the emphasis areas identified below.

### Regulation, Law and Policy Emphasis

Select 9 credits from the following:

- AGEC 352 - Agricultural Law Credits: 3
- CJUS 203 - Policing in a Free Society (COM) Credits: 3
- POLS 210 - State and Local Government (COM) [SGR #3] Credits: 3
- POLS 337 - Constitutional Law: Government Powers Credits: 3

### Natural Resource Science Emphasis

Select 9 credits from the following:

- BIOL 373 - Evolution (COM) Credits: 3
- EES 430-430L/530-530L - Biological Invasions and Lab Credits: 3
- NRM 450-450L/550-550L - Freshwater Monitoring and Assessment and Lab Credits: 3
- NRM 464-564 - Ecosystem Ecology Credits: 3
- NRM 466-566 - Environmental Toxicology and Contaminants (COM) Credits: 3
- NRM 482-482L/582-582L - Natural Resource Management Biometry Credits: 3
- RANG 421-521 - Grassland Fire Ecology Credits: 3
- WL 415-415L/515-515L - Upland Game Ecology and Management and Lab Credits: 3
- WL 417-417L/517-517L - Large Mammal Ecology and Management and Lab Credits: 3
- WL 419-419L/519-519L - Waterfowl Ecology and Management and Lab Credits: 3
- WL 427-427L/527-527L - Limnology and Lab Credits: 3
- WL 431-431L/531-531L - Advanced Fisheries Management and Lab Credits: 3

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32-34 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 52 Credit Hours |
| Supporting Coursework | 21 Credit Hours |
| Electives** | 13-15 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Natural Resource Law Enforcement (B.S.)

## Nursing (B.S.N.)

### Program Coordinator/Contact

Standard Option, Brookings
Laura Jacobs, Nursing Student Services
SDSU Wagner Hall 335E
Brookings, SD 57007
605-688-4106 or 1-888-216-9806 ext. 2

Standard Option, Rapid City
Gale Folsland, Advisor
Rapid City site, SDSU
1011 11th Street
Rapid City, SD 57701
605-394-5390 or 1-888-819-1725

Standard Option, Sioux Falls
Camilla Veire, Advisor
College of Nursing, SDSU
2300 N. Career Avenue
Sioux Falls, SD 57107
605-367-8400

### Program Information

The Bachelor of Science in nursing program prepares graduates to practice in both hospital and non-hospital settings and have the foundation for advanced study in nursing. The curriculum includes university core requirements, major support courses in communication and the social, physical, and biological sciences, and nursing major professional program courses. This education provides the foundation for the development of professional knowledge, critical thinking, ethical decision-making, leadership skills and pursuit of high standards in health care to influence quality health outcomes.

### Student Learning Outcomes

Students will be able to:

- Integrate theories and concepts from liberal education into nursing practice.
- Integrate effective leadership skills to improve the quality of health care.
- Incorporate evidence-based practice.
- Demonstrate proficiency in patient care technologies and informatics.
- Evaluate the implications of health policy and health care delivery systems on the professional nursing practice environment.
- Integrate effective interprofessional communication and collaboration into professional nursing practice.
- Integrate behaviors that reflect nursing values and professional standards into practice.
- Provide patient-centered, quality care.
- Improve population health through health promotion and disease prevention.

### Delivery Options

Three types of undergraduate curricula lead to the Bachelor of Science with a major in nursing: one for standard students, one for RNs who are academically prepared at the associate degree and now seek a bachelor's degree, and the accelerated option for students with non-nursing baccalaureate degrees who wish to obtain a degree in nursing. The Standard Option is designed to meet the educational needs of persons who are not registered nurses and can be completed in two and a half years on the Brookings and Rapid City campuses. The program is a year-round program completed in twenty months on the Sioux Falls campus. Information about the Accelerated and RN to B.S.N. programs is available in the subsequent sections.

### Standard B.S. Program Admission

### Admissions Application Dates

- September 25 is the priority admission application deadline to enter in the Spring Semester.
- January 25 is the priority admission application deadline to enter in the Fall Semester.
- The Brookings and Rapid City sites admit students to the professional program for both the Fall and Spring semesters.
- The Sioux Falls site admits students to the professional program for the Spring semester.

### Direct Admit Admission Requirements

High school seniors who wish to pursue a Bachelor of Science in Nursing (BSN) from South Dakota State University have the option to apply for the Direct Admit program. The Direct Admit program guarantees admission into the professional program prior to the competitive selection process, for students who meet specific,

pre-established criteria. Students who do not meet the criteria for the Direct Admit program can apply for admission to the professional nursing program as part of a competitive application process, as long as all application requirements have been met.

### Selection Criteria for the Direct Admit Program

To be considered for the Direct Admit program, applicants must:

- be admitted as a first-time freshman nursing major at SDSU main campus in Brookings,
- have a minimum 27 composite score on the ACT (SAT equivalent 1280), and
- submit the College of Nursing Direct Admit Application.

Direct Admit students are provisionally admitted to the professional program. They must meet a specific set of requirements during their first three semesters in order to begin the professional program at the start of the fourth semester. Once admitted in the fall of their freshman year, Direct Admit students must:

- be enrolled as a full-time student each semester,
- participate in the Fishback Honors College and meet the Fishback Honors College progression standards required for priority registration each semester (students with a 27 or higher ACT are automatically admitted to Fishback Honors College),
- apply to the professional nursing major* before or during their 3rd semester on campus, once all Pre-Nursing courses are completed or in progress, and
- complete the following core requirements with a letter grade of 'C' or higher:
  - One course from the System General Education Requirement (SGR) #1: Written Communication list
  - One course from the System General Education Requirement (SGR) #2: Oral Communication list
  - One course from the System General Education Requirement (SGR) #4: Humanities list
  - System General Education Requirement (SGR) #5: Mathematics
  - NURS 119 - First Year Seminar (COM)
- earn a letter grade of 'C' or higher (no D, F, or Withdrawal grades) in all required Pre-Nursing courses:
  - CHEM 106-106L or CHEM 112-112L
  - NUTR 315
  - MICR 231-231L
  - PSYC 101
  - SOC 100, SOC 150, or SOC 240
  - BIOL 221-221L
  - BIOL 325-325L
  - HDFS 210

*Application to the nursing major is required for validation and site placement purposes. Students must pass a background check and drug screening after provisional acceptance into the nursing major.

If a Direct Admit student does not maintain eligibility, their application to the Nursing major will be considered in the competitive application pool, as long as application requirements have been met.

### Competitive Admission Requirements

To be considered for competitive admission to the Standard Option, students must have:

- a cumulative GPA of 2.7
- a pre-nursing course GPA of 2.7
- a grade of 'C' or higher in all completed courses required for graduation,
- completed the following core requirements
  - One course from the System General Education Requirement (SGR) #1: Written Communication list
  - One course from the System General Education Requirement (SGR) #2: Oral Communication list
  - One course from the System General Education Requirement (SGR) #4: Humanities list
  - System General Education Requirement (SGR) #5: Mathematics
  - NURS 119 - First Year Seminar (COM)
- earned a letter grade of 'C' or higher in all required Pre-Nursing courses:
  - CHEM 106-106L or CHEM 112-112L
  - NUTR 315
  - MICR 231-231L
  - PSYC 101
  - SOC 100, SOC 150, or SOC 240
  - BIOL 221-221L
  - BIOL 325-325L
  - HDFS 210

Any student eligible for regular admission to SDSU who plans to enroll in the College of Nursing, Department of Undergraduate Nursing, can be accepted into nursing and will have an academic advisor from the College of Nursing. During the semester in which students are completing their final Pre-Nursing courses, they apply for admission to the professional program. Applicants with courses in progress at the time of application will be required to provide proof of enrollment in those courses with the application form.

Fulfillment of course and application requirements does not ensure admission. The number of students admitted to the professional program may vary depending upon available clinical facilities, qualified faculty and resources.

### Additional Coursework Policies

Students who fail (earned a "D" or "F") two or more of the Pre-Nursing lab science courses (CHEM 106-106L or CHEM 112-112L; MICR 231-231L; BIOL 221-221L; BIOL 325-325L), within the past 5 years will not be admitted to the professional program. Students who fail one Pre-Nursing course (CHEM 106-106L or CHEM 112-112L; MICR 231-231L; BIOL 221-221L; BIOL 325-325L; PSYC 101; one of the following: SOC 100, SOC 150, or SOC 240; NUTR 315; HDFS 210), and repeat and fail the same course a second time within the past 5 years, will not be admitted to the professional program. Students who have taken Anatomy or Physiology more than seven years prior to their admission date will be required to update these courses.

### Nursing Regulations

Students in the College of Nursing are governed by the regulations and policies that apply to all students at SDSU but are also governed by requirements of the College of Nursing, professional standards and standards of the assigned clinical agencies. These requirements are presented in detail in the College of Nursing Undergraduate Handbook. This includes but is not limited to health requirements, immunizations, background checks, and drug screens.

### Transfer Students

Transfer students who have begun but not completed a bachelor's in nursing program at another college or university within the last five years must submit a letter to the College of Nursing indicating their reason for transfer. They must also apply for admission to SDSU, as well as to the College of Nursing. Additionally, students must obtain a letter from the Dean or Director of the former institution identifying whether the student is not continuing in the program at that institution for any reasons other than lack of academic success or personal choice. The Dean or Director of the former program is asked to identify if the student would be recommended for continuation in pursuit of a nursing degree, recommended with reservation or not recommended. A form is available from Nursing Student Services which can be utilized for this purpose. Being enrolled in clinical courses and courses that are normally associated with having started the nursing program at that institution serves as the definition of beginning a nursing program for this requirement.

### Language Proficiency

As the nurse is a professional who deals with human lives, it is mandatory that a higher level of English fluency be met in order to ensure the safety of clients and students. The English as a Second Language requirement for the College of Nursing is the same as that required by the National Council of State Boards of Nursing. The College of Nursing requires all students who meet the definition of a student with English as a Second Language to complete the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), DuoLingo or an accepted substitute. English as a Second Language is defined as a student who was instructed and spoke primarily in a language other than English in the K-12 grades or primary and secondary schooling. The Office of International Affairs lists waiver countries on their website and has information about these tests, however, the College of Nursing minimum scores are higher than those of the University to align with the national standards in nursing. The minimum TOEFL score required for admission to the professional program is 79 (iBT), with a minimum speaking score of 26. The required IELTS band score for admission to the professional program is 6.5, with a minimum of 6.0 in each module. The minimum DuoLingo score is 110. The TOEFL, IELTS or DuoLingo is required for all students for whom English is a second language, regardless of residency status. These scores are required before the student will be accepted into the professional program and the student is responsible for all testing fees.

### Academic Requirements

A GPA of 2.5 or higher is required for continuation in the professional program and graduation from the College of Nursing. A grade of "C" or higher is required in all courses required for graduation. Students may repeat one failed professional program course with permission from the College of Nursing. Upon failing a second professional program course, the student is dismissed from the major. A

student who needs to repeat a failed professional program course is re-enrolled in the course on a space available basis. A student who fails a course due to unsafe practice in a clinical experience will not be eligible for readmission to the professional program nursing major, unless evidence is submitted that the unsafe behaviors have been corrected.

All undergraduate and graduate nursing students are expected to adhere to the principles of the Code of Ethics for Nurses (American Nurses Association, 2015). The Code of Ethics for Nurses communicates a standard of professional behavior expected throughout the total program and in each individual nursing course. Therefore, in addition to dismissal for academic failure, the faculty and administration of the Departments of Undergraduate Nursing and Graduate Nursing reserve the right to dismiss any student enrolled in either the undergraduate or graduate program for unethical, dishonest, illegal, or conduct inconsistent with the Code of Ethics for Nurses or legal requirements.

### Course Delivery Format

The professional program combines lecture and hands-on experiences that teach students to practice nursing with expertise, professionalism, and a passion for helping others. The faculty engage students in classroom, online, simulation laboratory, and clinical learning experiences in health care facilities and in community settings.

### Requirements for Nursing Major: 120 Credits

*Bachelor of Science in Nursing*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3 and SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3 or SOC 150 - Social Problems (COM) [SGR #3] Credits: 3 or SOC 240 - The Sociology of Rural America (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4

### Pre-Nursing Requirements

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- NURS 119 - First Year Seminar (COM) Credits: 2
- NUTR 315 - Human Nutrition (COM) Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3

### Major Requirements

- NURS 234 - Patient-Centered Care Concepts I Credits: 2-3 (2 credits required)
- NURS 235 - Clinical Application I Credits: 2
- NURS 258-258L - Nursing Principles and Application I: Assessment and Interventions and Lab Credits: 3-4 (4 credits required)
- NURS 272 - Professional Nursing Concepts I Credits: 2
- NURS 322 - Pharmacology Credits: 3
- NURS 323 - Introduction to Pathophysiology Credits: 3
- NURS 334 - Patient-Centered Care Concepts II Credits: 5
- NURS 335 - Clinical Application II Credits: 3
- NURS 344 - Patient-Centered Care Concepts III Credits: 5
- NURS 345 - Clinical Application III Credits: 3
- NURS 347 - Concepts Synthesis I Credits: 1
- NURS 358-358L - Nursing Principles and Applications II: Interventions and Lab Credits: 3-4 (4 credits required)
- NURS 360 - Research and Evidence-Based Practice Credits: 3
- NURS 372 - Professional Nursing Concepts II Credits: 2
- NURS 434 - Patient-Centered Care Concepts IV Credits: 5
- NURS 435 - Clinical Application IV Credits: 4
- NURS 437 - Concepts Synthesis II Credits: 1
- NURS 444-444L - Population-Centered Care and Lab Credits: 3
- NURS 472 - Professional Nursing Concepts III Credits: 3
- NURS 495 - Practicum (COM) Credits: 1-6 (4 credits required)

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science in Nursing**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| Pre-Nursing Requirements | 16 Credit Hours |
| Major Requirements | 62 Credit Hours |
| Electives** | 10 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Nursing (B.S.N.)

## Nursing (B.S.N.) - Accelerated Program

### Program Coordinator/Contact

Accelerated Option, Sioux Falls
Camilla Veire, Advisor
College of Nursing, SDSU
2300 N. Career Avenue
Sioux Falls, SD 57107
605-367-8400

Accelerated Option, Aberdeen
Sara Olson, Advisor
Northern State University, SDSU
1200 S. Jay Street
Aberdeen, SD 57401
605-626-2427

Rapid City Accelerated
Gale Folsland, Advisor
Rapid City site, SDSU
1011 11th Street
Rapid City, SD 57701
605-394-5390 or 1-888-819-1725

### Program Information

The Bachelor of Science in nursing program prepares graduates to practice in both hospital and non-hospital settings and have the foundation for advanced study in nursing. The curriculum includes university core requirements, major support courses in communication and the social, physical, and biological sciences, and nursing major courses. This education provides the foundation for the development of professional knowledge, critical thinking, ethical decision-making, leadership skills and pursuit of high standards in health care to influence quality health outcomes.

### Student Learning Outcomes

Students will be able to:

- Integrate theories and concepts from liberal education into nursing practice.
- Integrate effective leadership skills to improve the quality of health care.
- Incorporate evidence-based practice.
- Demonstrate proficiency in patient care technologies and informatics.
- Evaluate the implications of health policy and health care delivery systems on the professional nursing practice environment.
- Integrate effective interprofessional communication and collaboration into professional nursing practice.
- Integrate behaviors that reflect nursing values and professional standards into practice.
- Provide patient-centered, quality care.
- Improve population health through health promotion and disease prevention.

### Program Delivery Options

The Accelerated Option is for students who have completed a Bachelor's degree in any field and wish to obtain a Bachelor of Science in Nursing (BSN) degree.

Exceptions may be made to previous Bachelor's under certain circumstances. This 12-month option begins once a year at the SDSU Sioux Falls campus (August), the SDSU Aberdeen campus (January), and the SDSU Rapid City campus (January). Students take coursework and participate in lecture, on-campus labs, and clinical rotations in Sioux Falls, Aberdeen, or Rapid City respectively and in surrounding communities.

### Admission

### Admission Application Deadline Dates

- Rapid City Accelerated Option, June 1 priority application deadline.
- Sioux Falls Accelerated Option, January 25 priority application deadline.
- Aberdeen Accelerated Option, June 1 priority application deadline.

### Admission Requirements

To be considered for admission to the Accelerated Option, students must have:

- a cumulative GPA of 2.8 or higher.
- a pre-nursing course GPA of 3.0 or higher.
- a grade of "C" or higher in all completed courses required for graduation.
- Students may apply while prerequisite (Pre-Nursing) courses are in progress. However, of the 8 Pre-Nursing courses, 4 must be complete with at least 2 of the remaining 4 in progress at the time of application for Rapid City and Aberdeen (June application / January start); and 5 of the 8 Pre-Nursing courses must be complete with both of the remaining 2 in progress for Sioux Falls (January application / August start).
- All non-nursing courses required for the Bachelor's degree must be completed before the program begins.

Any student eligible for regular admission to SDSU who plans to enroll in the College of Nursing, Department of Undergraduate Nursing, can be accepted into nursing and will have an academic advisor from the College of Nursing. During the semester in which students are completing their final required Pre-Nursing courses, they apply for admission to the professional program. Applicants with courses in progress at the time of application will be required to provide proof of enrollment in those courses with the application form.

Fulfillment of course and application requirements does not ensure admission. The number of students admitted to the professional program may vary depending upon available clinical facilities, qualified faculty and resources.

### Additional Coursework Policies

Students who fail (earned a "D" or "F") two or more of the Pre-Nursing lab science courses (CHEM 106-106L or CHEM 112-112L; MICR 231-231L; BIOL 221-221L; BIOL 325-325L), within the past 5 years will not be admitted to the professional program. Students who fail one Pre-Nursing course (CHEM 106-106L or CHEM 112-112L; MICR 231-231L; BIOL 221-221L; BIOL 325-325L; PSYC 101; one of the following: SOC 100, SOC 150, or SOC 240; NUTR 315; HDFS 210), and repeat and fail the same course a second time within the past 5 years, will not be admitted to the professional program. Students who have taken Anatomy or Physiology more than seven years prior to their admission date will be required to update these courses.

### Nursing Regulations

Students in the College of Nursing are governed by the regulations and policies that apply to all students at SDSU but are also governed by requirements of the College of Nursing, professional standards and standards of the assigned clinical agencies. These requirements are presented in detail in the College of Nursing Undergraduate Handbook. This includes but is not limited to health requirements, immunizations, background checks, and drug screens.

### Transfer Students

Transfer students who have begun but not completed a bachelor's in nursing program at another college or university within the last five years must submit a letter to the College of Nursing indicating their reason for transfer. They must also apply for admission to SDSU, as well as to the College of Nursing. Additionally, students must obtain a letter from the Dean or Director of the former institution identifying whether the student is not continuing in the program at that institution for any reasons other than lack of academic success or personal choice. The Dean or Director of the former program is asked to identify if the student would be recommended for continuation in pursuit of a nursing degree, recommended with reservation or not recommended. A form is available from Nursing Student Services which can be utilized for this purpose. Being enrolled in clinical courses and courses that are normally associated with having started the nursing program at that institution serves as the definition of beginning a nursing program for this requirement.

### Language Proficiency

As the nurse is a professional who deals with human lives, it is mandatory that a higher level of English fluency be met in order to ensure the safety of clients and students. The English as a Second Language requirement for the College of Nursing is the same as that required by the National Council of State Boards of Nursing. The College of Nursing requires all students who meet the definition of a student with English as a Second Language to complete the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), DuoLingo or an accepted substitute. English as a Second Language is defined as a student who was instructed and spoke primarily in a language other than English in the K-12 grades or primary and secondary schooling. The Office of International Affairs lists waiver countries on their website and has information about these tests, however, the College of Nursing minimum scores are higher than those of the University to align with the national standards in nursing. The minimum TOEFL score required for admission to the professional program is 79 (iBT), with a minimum speaking score of 26. The required IELTS band score for admission to the professional program is 6.5, with a minimum of 6.0 in each module. The minimum DuoLingo score is 110. The TOEFL, IELTS or DuoLingo is required for all students for whom English is a second language, regardless of residency status. These scores are required before the student will be accepted into the professional program and the student is responsible for all testing fees.

### Academic Requirements

A GPA of 2.5 or higher is required for continuation in the professional program and graduation from the College of Nursing. A grade of "C" or higher is required in all courses required for graduation. Students may repeat one failed professional program course with permission from the College of Nursing. Upon failing a second professional program course, the student is dismissed from the major. A student who needs to repeat a failed nursing course is re-enrolled in the course on a space available basis. A student who fails a course due to unsafe practice in a clinical experience will not be eligible for readmission to the professional program, unless evidence is submitted that the unsafe behaviors have been corrected.

All undergraduate and graduate nursing students are expected to adhere to the principles of the Code of Ethics for Nurses (American Nurses Association, 2015). The Code of Ethics for Nurses communicates a standard of professional behavior expected throughout the total program and in each individual nursing course. Therefore, in addition to dismissal for academic failure, the faculty and administration of the Departments of Undergraduate Nursing and Graduate Nursing reserve the right to dismiss any student enrolled in either the undergraduate or graduate program for unethical, dishonest, illegal, or conduct inconsistent with the Code of Ethics for Nurses or legal requirements.

### Course Delivery Format

The professional program combines lecture and hands-on experiences that teach students to practice nursing with expertise, professionalism, and a passion for helping others. The faculty engage students in classroom, online, simulation laboratory, and clinical learning experiences in health care facilities and in community settings.

### Requirements for Nursing - Accelerated Program: 120 Credits

*Bachelor of Science in Nursing*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3 and SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3 or SOC 150 - Social Problems (COM) [SGR #3] Credits: 3 or SOC 240 - The Sociology of Rural America (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4

### Pre-Nursing Requirements

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- NURS 119 - First Year Seminar (COM) Credits: 2
- NUTR 315 - Human Nutrition (COM) Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3

### Major Requirements

- NURS 234 - Patient-Centered Care Concepts I Credits: 2-3 (2 credits required)
- NURS 235 - Clinical Application I Credits: 2
- NURS 258-258L - Nursing Principles and Application I: Assessment and Interventions and Lab Credits: 3-4 (4 credits required)
- NURS 272 - Professional Nursing Concepts I Credits: 2
- NURS 322 - Pharmacology Credits: 3
- NURS 323 - Introduction to Pathophysiology Credits: 3
- NURS 334 - Patient-Centered Care Concepts II Credits: 5
- NURS 335 - Clinical Application II Credits: 3
- NURS 344 - Patient-Centered Care Concepts III Credits: 5
- NURS 345 - Clinical Application III Credits: 3
- NURS 347 - Concepts Synthesis I Credits: 1
- NURS 358-358L - Nursing Principles and Applications II: Interventions and Lab Credits: 3-4 (4 credits required)
- NURS 360 - Research and Evidence-Based Practice Credits: 3
- NURS 372 - Professional Nursing Concepts II Credits: 2
- NURS 434 - Patient-Centered Care Concepts IV Credits: 5
- NURS 435 - Clinical Application IV Credits: 4
- NURS 437 - Concepts Synthesis II Credits: 1
- NURS 444-444L - Population-Centered Care and Lab Credits: 3
- NURS 472 - Professional Nursing Concepts III Credits: 3
- NURS 495 - Practicum (COM) Credits: 1-6 (4 credits required)

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science in Nursing**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| Pre-Nursing Requirements | 16 Credit Hours |
| Major Requirements | 62 Credit Hours |
| Electives** | 10 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Nursing (B.S.N.) - Accelerated Program

## Nursing (B.S.N.) - RN to B.S.N.

### Program Coordinator/Contact

RN to B.S.N. Option
Heidi Pelzel, Program Coordinator
605-626-7188

Cami Veire, Advisor
605-367-8400

### Program Information

The RN to B.S.N. option builds upon the associate degree RN education and experience, enhances the RN's leadership in providing holistic, integrated care to improve patient outcomes and to reduce healthcare disparities. The RN to B.S.N. option further develops the RN's foundation for advanced study in nursing. Graduates of the RN to B.S.N. option are prepared to expand their practice in the areas of community health, health promotion, and leadership in preparation for new career opportunities in emerging healthcare environments. The curriculum includes system general education requirements, required foundational courses in the social, physical, and biological sciences, and RN to B.S.N. courses.

### Student Learning Outcomes

Students will be able to:

- Integrate theories and concepts from liberal education into nursing practice.
- Integrate effective leadership skills to improve the quality of health care.
- Incorporate evidence-based practice.
- Demonstrate proficiency in patient care technologies and informatics.
- Evaluate the implications of health policy and health care delivery systems on the professional nursing practice environment.
- Integrate effective interprofessional communication and collaboration into professional nursing practice.
- Integrate behaviors that reflect nursing values and professional standards into practice.
- Provide patient-centered, quality care.
- Improve population health through health promotion and disease prevention.

### Program Delivery Options

The RN to B.S.N. option is designed as a baccalaureate degree completion for registered nurses who completed a associate degree nursing program. Curriculum includes on-line courses and clinical practicums in the RN's geographic area. Due to individual state Board of Nursing practicum requirements, out-of-state students are strongly encouraged to contact the RN to B.S.N. advisor.

### Program Admission

Interested RNs are encouraged to contact the RN to B.S.N. office for individual advising.

### Admission Application Dates

Students are admitted six times a year for the RN to B.S.N. program. Refer to the SDSU College of Nursing website for admission application deadlines.

### Admission Requirements

- 2.5 GPA, "C" grades in all coursework applied to baccalaureate requirements
- Unencumbered registered nursing license in state of practice

### Transfer Students

Transfer students who have begun but not completed a bachelor's in nursing program at another college or university within the last five years must submit a letter to the College of Nursing indicating their reason for transfer. They must also apply for admission to SDSU, as well as to the College of Nursing. Additionally, students must obtain a letter from the Dean or Director of the former institution identifying whether the student is not continuing in the program at that institution for any reasons other than lack of academic success or personal choice. The Dean or Director of the former program is asked to identify if the student would be recommended for continuation in pursuit of a nursing degree, recommended with reservation or not recommended. A form is available from Nursing Student Services which can be utilized for this purpose. Being enrolled in clinical courses and courses that are normally associated with having started the nursing program at that institution serves as the definition of beginning a nursing program for this requirement.

### Nursing Regulations

Students in the College of Nursing are governed by the regulations and policies that apply to all students at SDSU but are also governed by requirements of the College of Nursing, professional standards and those of the clinical agencies in which they have practicum experiences. These requirements are presented in detail in the College of Nursing Undergraduate Handbook. This includes but is not limited to health requirements, immunizations, background checks, and drug screens.

### Academic Requirements

A GPA of 2.5 or higher is required for continuation in the professional program and graduation from the College of Nursing. A grade of "C" or higher is required in all courses required for graduation. Students may repeat one failed professional program course with permission from the College of Nursing. Upon failing a second professional program course, the student is dismissed from the major. A student who needs to repeat a failed professional program nursing course is re-enrolled in the course on a space available basis. A student who fails a course due to unsafe practice in a practicum experience will not be eligible for readmission to the professional program, unless evidence is submitted that the unsafe behaviors have been corrected.

All undergraduate and graduate nursing students are expected to adhere to the principles of the Code of Ethics for Nurses (American Nurses Association, 2015). The Code of Ethics for Nurses communicates a standard of professional behavior expected throughout the total program and in each individual nursing course. Therefore, in addition to dismissal for academic failure, the faculty and

administration of the Departments of Undergraduate Nursing and Graduate Nursing reserve the right to dismiss any student enrolled in either the undergraduate or graduate program for unethical, dishonest, illegal, or other conduct that is inconsistent with the Code of Ethics for Nurses.

### Course Delivery Format

All coursework is delivered online. Curriculum is flexible and designed to accommodate the personal and professional needs of the RN. There are many opportunities for collaboration with experienced, well-qualified faculty and other RNs.

### Requirements for Nursing Major - RN to B.S.N.: 120 Credits

*Bachelor of Science in Nursing*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3 and SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3, SOC 150 - Social Problems (COM) [SGR #3] Credits: 3 or SOC 240 - The Sociology of Rural America (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 and MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4

### College of Nursing Requirements

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3

### Major Requirements

- NURS 300 - Transition to BSN Credits: 3
- NURS 461 - Vulnerable Populations: Nursing Perspectives Credits: 3
- NURS 462 - Population Health: Nursing Perspectives Credits: 3
- NURS 463 - Health Policy and Economics Credits: 3
- NURS 464 - Genetics and Genomics in Nursing Credits: 3
- NURS 465 - Evidence-Based Nursing Practice Credits: 3
- NURS 466 - Healthcare Systems and Informatics Credits: 3
- NURS 469 - Nursing Leadership Capstone Credits: 3

### Associate degree credits awarded by licensure for the following

Credits: 46

- NURS 234 - Patient-Centered Care Concepts I Credits: 2-3 (2 credits required)
- NURS 235 - Clinical Application I Credits: 2
- NURS 258-258L - Nursing Principles and Application I: Assessment and Interventions and Lab Credits: 3-4 (4 credits required)
- NURS 322 - Pharmacology Credits: 3
- NURS 323 - Introduction to Pathophysiology Credits: 3
- NURS 334 - Patient-Centered Care Concepts II Credits: 5
- NURS 335 - Clinical Application II Credits: 3
- NURS 344 - Patient-Centered Care Concepts III Credits: 5
- NURS 345 - Clinical Application III Credits: 3
- NURS 358-358L - Nursing Principles and Applications II: Interventions and Lab Credits: 3-4 (4 credits required)
- NURS 434 - Patient-Centered Care Concepts IV Credits: 5
- NURS 435 - Clinical Application IV Credits: 4
- NUTR 315 - Human Nutrition (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

### Bachelor of Science in Nursing

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| College of Nursing Requirements | 11 Credit Hours |
| Major Requirements | 70 Credit Hours |
| Electives** | 7 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Nursing (B.S.N.) - RN to B.S.N.

## Nutrition & Dietetics (B.S.)

### Program Coordinator/Contact

Lacey McCormack, PhD, MPH, RD, LN, EP-C
School of Health and Consumer Sciences
Wagner Hall 415, Box 2275A
605-688-4046

### Program Information

Dietetics is the education and practice of food, nutrition and wellness and offers a wide variety of jobs in the health promotion, wellness, nutrition care and foodservice administration areas. Registered dietitian nutritionist (RDN) provide nutrition education and counseling and are pivotal in preventive health care and community nutrition programs. Additionally, a RDN is essential to the total care of a patient in a healthcare facility through nutritional assessment and medical nutrition therapy. Students develop an understanding and competency in food, nutrition, wellness, and management and a background in the basic and behavioral sciences to apply the science of nutrition for the promotion of health and disease prevention.

The employment opportunities are in health promotion and wellness programs, public health agencies, foodservice and food production industries, schools, universities, the armed services, hospitals, nursing homes, and state, national and international organizations. Governmental regulations require the services of dietitians in federally supported programs. The consulting services of a dietitian are often sought by architects and hospital administrators in planning and equipping food preparation and services facilities.

Mission and program objectives are available on the Nutrition and Dietetics homepage at www.sdstate.edu/health-and-nutritional-sciences/nutrition-and-dietetics. Program outcome data are available upon request from the program director.

### Additional Program Requirements

Students must be current on immunizations and complete a criminal background check to complete education components of program. Additional costs may also be incurred for laboratory coats and student membership in the national organization of the Academy of Nutrition and Dietetics.

### Student Learning Outcomes

Upon completion of the Nutrition and Dietetics major, students will:

- Demonstrate how to locate, interpret, evaluate and use professional literature to make ethical, evidence-based practice decisions.
- Use current information technologies to locate and apply evidence-based guidelines and protocols.
- Apply critical thinking skills.
- Demonstrate effective and professional oral and written communication and documentation.
- Describe the governance of nutrition and dietetics practice, such as the Scope of Nutrition and Dietetics Practice and the Code of Ethics for the Profession of Nutrition and Dietetics; and describe interprofessional relationships in various practice settings.
- Assess the impact of a public policy position on nutrition and dietetics practice.
- Discuss the impact of health care policy and different health care delivery systems on food and nutrition services.
- Identify and describe the work of interprofessional teams and the roles of others with whom the registered dietitian nutritionist collaborates in the delivery of food and nutrition services.
- Demonstrate an understanding of cultural competence/sensitivity.
- Demonstrate identification with the nutrition and dietetics profession through activities such as participation in professional organizations and defending a position on issues impacting the nutrition and dietetics profession.

- Demonstrate an understanding of the importance and expectations of a professional in mentoring and precepting others.
- Use the Nutrition Care Process to make decisions, identify nutrition-related problems and determine and evaluate nutrition interventions.
- Develop an educational session or program/educational strategy for a target population.
- Demonstrate counseling and education methods to facilitate behavior change for and enhance wellness for diverse individuals and groups.
- Explain the processes involved in delivering quality food and nutrition services.
- Describe basic concepts of nutritional genomics.
- Apply management theories to the development of programs or services.
- Evaluate a budget and interpret financial data.
- Describe the regulation system related to billing and coding, what services are reimbursable by third party payers, and how reimbursement may be obtained.
- Apply the principles of human resource management to different situations.
- Describe safety principles related to food, personnel and consumers.
- Analyze data for assessment and evaluate data to be used in decision-making for continuous quality improvement.

### Academic Requirements

A minimum final grade of "C" is required in all NUTR prefix required courses in the major to graduate.

### Accreditation, Certification and Licensure

The program has been continuously approved/accredited since inception by the Accreditation Council for Education of Nutrition and Dietetics as a Didactic Program in Dietetics by the Accreditation Council for Education of Nutrition and Dietetics (120 South Riverside Plaza, Suite 2190, Chicago, IL 60606-6995), the accrediting agency for Academy of Nutrition and Dietetics (http://www.eatright.org/resources/acend).

All students successfully graduating from SDSU with a B.S. degree in Nutrition and Dietetics and the courses required to receive a verification statement must have a "B" or better in NUTR 315 - Human Nutrition (COM) and "C" or better in all majors (course with NUTR prefix) coursework to receive the verification statement. To become a RDN, one must complete an accredited didactic program in dietetics, a bachelor's degree, an accredited supervised practice (dietetic internship) and pass the Commission on Dietetics Registration examination for registered dietitian nutritionist. In 2024, a graduate degree will also be required to take the CDR registration examination. The dietetic internships are post-graduation, require additional fees, and are competitive. To practice in the state of South Dakota the RDN must apply for licensure through the State Board of Medical and Osteopathic Examiners (www.sdbmoe.gov).

### Course Delivery Format

The program offers coursework through lecture, discussion, and laboratory experiences.

### Requirements for Nutrition and Dietetics Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 and HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHRD 475 - Motivational Interviewing and Wellness Counseling Credits: 3
- HLTH 100-100L - Wellness for Life and Lab (COM) Credits: 2
- HMGT 251 - Foodservice Sanitation Credits: 1
- HMGT 380 - Foodservice Operations and Purchasing Management Credits: 3
- HMGT 381-381L - Quantity Food Production and Service and Lab Credits: 4
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- NURS 201 - Medical Terminology Credits: 1
- NUTR 111 - Food, People and the Environment Credits: 3
- NUTR 141-141L - Foods Principles and Lab Credits: 4
- NUTR 315 - Human Nutrition (COM) Credits: 3
- NUTR 322 - Nutrition Assessment Credits: 3
- NUTR 323 - Nutrition Across the Life Cycle Credits: 3
- NUTR 341-341L - Food Science for Nutrition and Dietetics and Lab Credits: 4
- NUTR 422-522 - Advanced Human Nutrition and Metabolism Credits: 4
- NUTR 423-423L/523-523L - Medical Nutrition Therapy I and Lab Credits: 3
- NUTR 424-424L/524-524L - Community Nutrition and Lab Credits: 3
- NUTR 425-425L/525-525L - Medical Nutrition Therapy II and Lab Credits: 3
- NUTR 460-560 - Nutrigenomics and Molecular Nutrition Credits: 3
- NUTR 487 - Transition to Professional World Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
  or HSC 445 - Epidemiology Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 83 Credit Hours |
| Electives** | 1 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Nutrition and Dietetics (B.S.)

## Operations Management (B.S.)

### Program Coordinator/Contact

Suzette Burckhard, Interim Department Head
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417

### Program Information

The Operations Management (OM) program has been designed to prepare students to manage operations and resources including people, equipment, facilities, finances, and processes. The OM program is an applied management program tailored to entry-level positions of responsibility in manufacturing, technical services companies, suppliers to manufacturers, and/or industrial sales.

There are three emphases in the OM program. The *Supply Chain Management* emphasis addresses the system for producing consumer products or service from raw materials to final delivery. Production management, logistics (people, facilities, transportation) and warehousing are covered in depth to prepare you for a high-demand career in SCM. The *Manufacturing* emphasis includes Lean, quality management systems, process development, workplace safety, supply chain management, and industrial controls. Students may elect to pursue an

additional professional certification at graduation. The *Electronics* emphasis prepares students to work as supervisors or project team leaders in industries that manufacture, service, or develop electronic devices or distributed systems. Courses include circuits, digital & analog devices, networks, microcontrollers, PCBs, industrial controls, and PLCs.

### Program Educational Outcomes

SDSU Operations Management graduates will become professionals who:

1. Achieve positions of increasing responsibility or leadership with employers, professional organizations, or civic organizations as an indicator of professional competence, demonstrate the ability to communicate effectively, and successfully function in team environments (Professional Responsibility and Teamwork);
2. Apply management, mathematics and science principles, and appropriate technology to the solution of current and future problems in the field of operations management, and (Problem Solving); and,
3. Complete licensure, certification, short courses, workshops, or advanced degrees in technical, professional, or management subject areas to enhance their abilities in operations management practice and the global business environment (Professional Growth).

### Student Outcomes

Operations Management graduates will have:

1. an ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
2. an ability to formulate or design a system, process, procedure, or program to meet desired needs.
3. an ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgement to draw conclusions.
4. an ability to communicate effectively with a range of audiences.
5. an ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.
6. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.
7. An ability to understand the value of diverse perspectives in the workplace.

### Accreditation, Certification, and Licensure

The Operations Management (B.S.) program at SDSU is accredited by the Applied and Natural Science Accreditation Commission of ABET, https://www.abet.org.

### Course Delivery Format

The program provides coursework on the Brookings campus in classroom, laboratory, and field-based settings. The OM program has a dedicated computer and simulation lab for process analysis, CAD applications, and project development, and shares fabrication space in the AME Production Lab.

### Requirements for Operations Management Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR # Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 and PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4

### Major Requirements

- BADM 360 - Organization and Management (COM) Credits: 3
  or GE 385 - Introduction to Systems Engineering and Management Credits: 3
- CM 130 - Management Tools and Analysis Credits: 3
- CSC 325 - Management Information Systems (COM) Credits: 3
- ET 210-210L - Introduction to Electronic Systems Credits: 4
- ET 451-451L - Industrial Controls and PLCs and Lab Credits: 3
- GE 425-525 - Occupational Safety and Health Management Credits: 3
- FIN 310 - Business Finance (COM) Credits: 3
  or MNET 468-568 - Manufacturing Plant Management Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
  or LDR 435 - Organizational Leadership and Team Development Credits: 3
- MNET 367-367L - Production Strategy and Lab Credits: 3
- MNET 460-560 - Engineering Economic Analysis Credits: 3
- OM 240 - Decision Making Processes in Management Credits: 3
- OM 462-562 - Quality Management Credits: 3
- OM 463-563 - Supply Chain Management Credits: 3
- OM 470 - Project Management Credits: 2
- OM 471 - Capstone Experience Credits: 2
- OM 490 - Seminar (COM) Credits: 1
- OM 494 - Internship (COM) Credits: 1-3 Electronics Emphasis: 1 credit required; Manufacturing Emphasis: 2 credits required, Supply Chain Management Emphasis: 2 credits required

### Emphasis

Select one emphasis. Credits: 18-19

### Electronics Emphasis

- ET 220-220L - Analog Electronics and Lab Credits: 4
- ET 232-232L - Digital Electronics and Microprocessors and Lab Credits: 3
- ET 330-330L - Microcontrollers and Networks and Lab Credits: 3
- ET 380-380L - Circuit Boards and Design and Lab Credits: 3
- OM 425 - Production and Operations Management Credits: 3
  or OM 465 - Quality Control Applications Credits: 3
- Technical Electives Credits: 3

### Manufacturing Emphasis

- MNET 231-231L - Manufacturing Processes I and Lab Credits: 3
- MNET 468-568 - Manufacturing Plant Management Credits: 3
- OM 425 - Production and Operations Management Credits: 3
- OM 465 - Quality Control Applications Credits: 3
- Technical Electives Credits: 6

### Supply Chain Management Emphasis

- ET 232-232L - Digital Electronics and Microprocessors and Lab Credits: 3
  or MNET 231-231L - Manufacturing Processes I and Lab Credits: 3
- OM 415-515 - Logistics and Transportation Management Credits: 3
- OM 425 - Production and Operations Management Credits: 3
- OM 435-535 - Warehouse Management Credits: 3
- Technical Electives Credits: 6

### Supporting Coursework

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- GE 101 - Introduction to Engineering and Technical Professions Credits: 1
- GE 121 - Engineering Design Graphics I Credits: 1
- GE 123 - Computer Aided Drawing Credits: 1
- GE 231 - Technology, Society, and Ethics Credits: 3
- MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
- Technical Electives Credits: 6

### Total Required Credits: 120

### Internship Program

Students are required to complete an industry—based internship prior to graduation via the course OM 494. The Program Coordinator and Faculty Advisor must approve a formal work plan before registering for internship credits. Further information can be found in the department.

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| Major Requirements | 65 Credit Hours |
| Supporting Coursework | 23 Credit Hours |
| Electives** | 0 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely

completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Operations Management (B.S.)

## Pharmaceutical Sciences (B.S.)/Pharmacy (Pharm.D.)

### Program Contact/Coordinator

Dan Hansen, Dean
Teresa Seefeldt, Associate Dean for Academic Programs
College of Pharmacy and Allied Health Professions
Avera Health and Science Center 133
605-688-6197 or 605-688-5591

### Program Information

The College of Pharmacy and Allied Health Professions offers a six-year course of study (2-year pre-pharmacy and 4-year professional program phase) leading to an entry level Doctor of Pharmacy degree. The Pharm.D. is a professional degree which enables graduates to pursue diverse career opportunities and ensures that their pharmacy education prepares them for future changes in the profession. The program provides unique opportunities for students who want to make a significant contribution to the health care needs of today's society.

### Program Admission

### Preparation for the Major

In high school the student should take an academic curriculum in preparation for entrance to college. A sound basic education in science and mathematics courses is an essential part of preparation for the study of pharmacy. Good written and verbal communication skills are important. Students planning to transfer from another college or university should consult with the College of Pharmacy and Allied Health Professions early in their academic careers to plan coursework that will transfer to the College of Pharmacy and Allied Health Professions and meet pre-pharmacy requirements.

### Application Process

All students seeking admission to the 4-year professional program leading to the Doctor of Pharmacy degree must submit an application for the professional program. Applications are available from the College of Pharmacy and Allied Health Professions website. The deadline for applying for admission for the fall semester is February 1. Limitations in the size of the physical facilities, the number of faculty and the number of advanced pharmacy practice experience sites make it necessary to limit the class size in the professional program. Each student admitted into the professional program is required to authorize and pay for a criminal background check. The background check report is automatically sent to the student and to the College and must be approved by the Admissions Committee.

Selection is competitive and based upon several factors including pre-pharmacy coursework, ACT or PCAT scores, written and oral communication skills, knowledge of the profession, residency status and other factors. Any student who anticipates successful completion of the pre-pharmacy mathematics, science and communication requirements prior to fall semester is eligible to apply.

Notification of initial acceptance into the professional program will be made by March 15. Students admitted to the professional program must submit a non-refundable pharmacy major fee to secure their position for the fall semester.

### Program Format

The curriculum is divided into a 2-year pre-pharmacy and a 4-year professional program phase. The pre-pharmacy courses provide a solid knowledge base and ability to use critical thought processes in the biological and physical sciences.

The four years of the professional program incorporate a solid foundation of pharmaceutical science courses as well as a comprehensive sequence of therapeutics and professional practice courses. Students earn a B.S. in Pharmaceutical Sciences after successful completion of the first two years of the professional program. The application of drug knowledge, basic science, and critical thinking to resolve problems of drug distribution and patient care are emphasized throughout the curriculum. In their first three years of the program, students gain initial practice experience through introductory pharmacy practice experiences in settings such as community and hospital pharmacies.

In the final year of the program, students have an opportunity to apply knowledge and pharmacy care principles to pharmacy practice situations in a series of advanced pharmacy practice experiences in a variety of patient care settings which include patient care areas of hospitals, nursing homes, community pharmacies, hospital pharmacies, Indian Health Service facilities and clinic pharmacies.

### Curriculum Notes

1. Eligible for B.S. in Pharmaceutical Sciences after completion of all general education requirements, 300 and 400-level required PHA courses, and general elective credits for a total of 138 credits.
2. Successful completion of the capstone activities are required as part of the degree requirements for both the B.S. in Pharmaceutical Sciences and the Doctor of Pharmacy degrees.
3. P3 year courses are taught at Community College for Sioux Falls. Advanced Pharmacy Practice Experiences (APPEs) are completed during Summer Sessions, Fall, and Spring Semesters.

### Pharmacy Regulations

Students in the College of Pharmacy and Allied Health Professions are governed by the regulations which apply to all students at SDSU but are also governed by requirements established by the College. These requirements are presented in detail in the Pharmacy Student Handbook and include:

### Progression

Progression standards for students in the Pharm.D. program are set to ensure graduates are prepared to provide pharmacy services to the public. The integrated curriculum relies on information and skills garnered in previous courses, and therefore, students' success depends on achieving a minimum level of performance in each course. Minimum level of performance is defined as a grade of C or better based on University Catalog grade definitions. A grade of D is defined in terms of "insufficient" and "inadequate" according to the University Catalog. A grade of F is defined in terms of "failure." D, F, and U (unsatisfactory) grades do not represent a minimum level of performance needed to develop skills, abilities, and knowledge of a general practitioner.

### Refused Status

A student will be placed on refused status if the student:

a. Earns a D, F, or U in a pharmacy course.
b. Does not complete the Pharm.D. program within six years of starting the professional program.

### Class Standing Requirements

Standing - In order for students to enroll in the fall semester of the pharmacy program, students must meet the class standing requirement. These are defined as follows (note: "completion" means a passing grade in each pharmacy course and maintaining semester and cumulative PHA GPA requirements):

P1 Year Standing - The student must have been admitted into the professional program.

P2 Year Standing - Completion of all PHA 300 level required courses and PHA 119/101 and PHA 219.

P3 Year Standing - Completion of all PHA 400 level required courses. PHA 610, a bachelor's degree, and all capstone activities are required to begin the fall semester. Completion of all required PHA 700, non-advanced pharmacy practice experience courses are required to progress to the subsequent semester.

P4 Year Standing - Completion of all PHA 600-700 level required, non-advanced pharmacy practice experience courses, and 300 hours of IPPE.

### Student Learning Outcomes

The educational outcomes are the knowledge, skills and attitudes which the College desires each Pharm.D. graduate to possess. The Pharm.D. program consists of specific courses and other experiences which are designed to provide the knowledge, training and experience to allow each student to successfully attain these outcomes.

### Foundational Knowledge

The professional program leading to the Doctor of Pharmacy degree (hereinafter "the program") develops in the graduate the knowledge, skills, abilities, behaviors, and attitudes necessary to apply the foundational sciences to the provision of patient-centered care.

1.1. Foundational Knowledge (Learner) – Develop, integrate, and apply knowledge from the foundational sciences (i.e., biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences) to evaluate the scientific literature, explain drug action, solve therapeutic problems, and advance population health and patient-centered care.

### Essentials for Practice and Care

The program imparts to the graduate the knowledge, skills, abilities, behaviors, and attitudes necessary to provide patient-centered care, manage medication use systems, promote health and wellness, and describe the influence of population-based care on patient-centered care.

2.1. Patient-centered care (Caregiver) - Provide patient-centered care as the medication expert (collect and interpret evidence, prioritize, formulate assessments and recommendations, implement, monitor and adjust plans, and document activities).

2.2. Medication use systems management (Manager) – Manage patient healthcare needs using human, financial, technological, and physical resources to optimize the safety and efficacy of medication use systems.

2.3. Health and wellness (Promoter) – Design prevention, intervention, and educational strategies for individuals and communities to manage chronic disease and improve health and wellness.

2.4. Population-based care (Provider) – Describe how population-based care influences patient-centered care and influences the development of practice guidelines and evidence-based best practices.

### Approach to Practice and Care

The program imparts to the graduate the knowledge, skills, abilities, behaviors, and attitudes necessary to solve problems; educate, advocate, and collaborate, working with a broad range of people; recognize social determinants of health; and effectively communicate verbally and nonverbally.

3.1. Problem Solving (Problem Solver) – Identify problems; explore and prioritize potential strategies; and design, implement, and evaluate a viable solution.

3.2. Education (Educator) – Educate all audiences by determining the most effective and enduring ways to impart information and assess learning.

3.3. Patient Advocacy (Advocate) – Represent the patient's best interests.

3.4. Interprofessional collaboration (Collaborator) – Actively participate and engage as a healthcare team member by demonstrating mutual respect, understanding, and values to meet patient care needs.

3.5. Cultural sensitivity (Includer) – Recognize social determinants of health to diminish disparities and inequities in access to quality care.

3.6. Communication (Communicator) – Effectively communicate verbally and nonverbally when interacting with individuals, groups, and organizations.

### Personal and Professional Development

The program imparts to the graduate the knowledge, skills, abilities, behaviors, and attitudes necessary to demonstrate self-awareness, leadership, innovation and entrepreneurship, and professionalism.

4.1. Self-awareness (Self-aware) – Examine and reflect on personal knowledge, skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth.

4.2. Leadership (Leader) – Demonstrate responsibility for creating and achieving shared goals, regardless of position.

4.3. Innovation and Entrepreneurship (Innovator) – Engage in innovative activities by using creative thinking to envision better ways of accomplishing professional goals.

4.4. Professionalism (Professional) – Exhibit behaviors and values that are consistent with the trust given to the profession by patients, other healthcare providers, and society.

### Accreditation, Certification, and Licensure

### Accreditation

The Pharm.D. program is accredited by the Accreditation Council for Pharmacy Education, 190 S. LaSalle Street, Suite 2850, Chicago, IL 60603-3499.

### Certification and Licensure

Graduates with a Doctor of Pharmacy degree are eligible to apply for licensure in any state. Licensure as a pharmacist requires graduation with the Pharm.D. degree from an accredited pharmacy program, a certified period of supervised internship experience and successful completion of the North American Pharmacist Licensure Examination and the Multistate Pharmacy Jurisprudence Examination in order to practice as a pharmacist.

These requirements vary slightly from state to state. Students interested in practicing in a particular state should contact the Board of Pharmacy of that state for information concerning requirements.

### Requirements for Doctor of Pharmacy Degree: 218 Credits

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5
- Goal #6 Natural Sciences: CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 and CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1

### Major Requirements

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
- PHA 119 - Introduction to the Pharmacy Profession Credits: 1
- PHA 219 - Fundamentals of Health Care Practice I Credits: 1
- PHA 313 - Pharmacy Calculations Credits: 1
- PHA 323 - Pharmaceutical Biochemistry Credits: 4
- PHA 324 - Biomedical Science I Credits: 4
- PHA 326L - Integrated Pharmacy Laboratory I Credits: 1
- PHA 331 - Pharmaceutics I Credits: 4
- PHA 332 - Pharmaceutics II Credits: 2
- PHA 340 - Medicinal Chemistry I Credits: 3
- PHA 341 - Medicinal Chemistry II Credits: 3
- PHA 342 - Self Care Pharmacotherapeutics I Credits: 1
- PHA 352 - Pathophysiology, Pharmacology and Toxicology I Credits: 3
- PHA 353 - Pathophysiology, Pharmacology and Toxicology II Credits: 3
- PHA 363L - Pharmacy Skills Laboratory I Credits: 1
- PHA 364L - Pharmacy Skills Laboratory II Credits: 2
- PHA 367 - Pharmacy Practice I: Introduction to Pharmacy Practice Credits: 1
- PHA 368 - Pharmacy Practice II: Drug Information and Communication Credits: 2
- PHA 410 - Introductory Practice Experience I Credits: 3 [3]
- PHA 415 - Biopharmaceutics and Pharmacokinetics Credits: 4
- PHA 419 - Fundamentals of Health Care Practice II Credits: 1
- PHA 425 - Biomedical Science II Credits: 3
- PHA 426L - Integrated Pharmacy Laboratory II Credits: 1
- PHA 430 - Pharmacy Practice Law Credits: 3
- PHA 445 - Pharmacotherapeutics I Credits: 3
- PHA 446 - Pharmacotherapeutics II Credits: 3
- PHA 452 - Pathophysiology, Pharmacology and Toxicology III Credits: 4
- PHA 453 - Pathophysiology, Pharmacology and Toxicology IV Credits: 4
- PHA 463L - Pharmacy Skills Laboratory III Credits: 2
- PHA 464L - Pharmacy Skills Laboratory IV Credits: 2
- PHA 467 - Pharmacy Practice III: Research Evaluation and Pharmacoeconomics Credits: 2
- PHA 468 - Pharmacy Practice IV: Medication Safety and Sterile Compounding Credits: 2

Must have a bachelor's degree[1 2] to begin the P3, 600-700 level courses [4]

- PHA 610 - Introductory Practice Experience II Credits: 3 [5]
- PHA 714 - Community Pharmacy Practice Experience Credits: 5
- PHA 716 - Hospital/Institutional Pharmacy Practice Experience Credits: 5
- PHA 719L - Pharmacy Capstone Credits: 1
- PHA 724 - U.S. Health Care Systems Credits: 2
- PHA 726L - Integrated Pharmacy Laboratory III Credits: 1
- PHA 727 - Professional Resource Management Credits: 4
- PHA 741 - Public and Population Health Credits: 2
- PHA 742 - Self Care Pharmacotherapeutics II Credits: 2
- PHA 756 - Pharmacotherapeutics III Credits: 4
- PHA 757 - Pharmacotherapeutics IV Credits: 4

- PHA 761 - Pharmacotherapeutics V Credits: 5
- PHA 762 - Pharmacotherapeutics VI Credits: 5
- PHA 763L - Pharmacy Skills Laboratory V Credits: 1
- PHA 764L - Pharmacy Skills Laboratory VI Credits: 1
- PHA 772 - Internal Medicine I Practice Experience Credits: 5
- PHA 774 - Ambulatory Care Practice Experience Credits: 5

### Assigned Advanced Pharmacy Practice Experiences

Choose 10 credits from the following:

- PHA 700 - Directed Studies Practice Experience Credits: 5
- PHA 706 - Critical Care Practice Experience Credits: 5
- PHA 707 - Infectious Disease Practice Experience Credits: 5
- PHA 717 - Community Health and Patient Monitoring Practice Experience Credits: 5
- PHA 770 - Pediatrics Practice Experience Credits: 5
- PHA 771 - Geriatrics Practice Experience Credits: 5
- PHA 773 - Internal Medicine II Practice Experience Credits: 5
- PHA 775 - Psychiatry Practice Experience Credits: 5

Advanced Pharmacy Practice Experiences (APPEs) are completed during Summer sessions, Fall, and Spring semesters.

### Elective Advanced Pharmacy Practice Experiences

Choose 10 credits from the following:

- PHA 700 - Directed Studies Practice Experience Credits: 5
- PHA 701 - Home Health/Hospice Practice Experience Credits: 5
- PHA 702 - Indian Health Services Practice Experience Credits: 5
- PHA 703 - Pharmacy Administration Practice Experience Credits: 5
- PHA 704 - Nutrition Support Practice Experience Credits: 5
- PHA 705 - Clinical Research Practice Experience Credits: 5
- PHA 708 - Surgery Practice Experience Credits: 5
- PHA 709 - Nephrology Practice Experience Credits: 5
- PHA 710 - Pharmacokinetics Practice Experience Credits: 5
- PHA 711 - Oncology Practice Experience Credits: 5
- PHA 712 - Nuclear Pharmacy Practice Experience Credits: 5
- PHA 713 - Managed Care Practice Experience Credits: 5
- PHA 780 - International Pharmacy Practice Experience Credits: 5

APPEs not utilized from list of Assigned APPEs

### Electives

- General Electives: 3
- Pharmacy Electives, PHA 700 level, non-APPE Credits: 5

### Total Required Credits: 218

### Notes

[1] Eligible for B.S. in Pharmaceutical Sciences after completion of all general education requirements, 300 and 400-level required PHA courses, and general elective credits for a total of 138 credits.
[2] Students must meet progression standards and capstone requirements in order to advance within the program.
[3] PHA 410 must be completed during the summer between the P1 and P2 years.
[4] General Electives are a College of Pharmacy requirement and can be from any discipline but must be completed by the end of the P2 year. For all students, general elective credits can include credits in excess of System Graduation Requirements (SGR).
[5] PHA 610 must be completed during the summer between the P2 and P3 years.

### Summary of Program Requirements

#### Doctor of Pharmacy

| | |
|---|---|
| System General Education Requirements | 34 Credit Hours |
| Major Requirements | 181 Credit Hours |
| Electives** | 3 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Pharmaceutical Sciences (B.S.)/Pharmacy (Pharm.D.)

### Additional Admission Requirements

Applicants to the Doctor of Pharmacy (Pharm.D.) program will submit:

- The completed application
- Official transcripts
- Contact information for two references
- Documentation of your ACT, SAT, or PCAT scores
- A short essay on the topic of "Why I want to obtain a Doctor of Pharmacy Degree at SDSU"
- A completed shadowing form

The program requires an interview with the Pharmacy Admissions Committee before we make the final selections for the new Fall class. Those selected are required to send a non-refundable deposit to secure enrollment for the fall semester. Students must pass a criminal background check before final approval for admission into the professional program. Applicants receive notification of acceptance into the professional program by March 15.

For more information see frequently asked questions (FAQ).

## Physical Education Teacher Education (B.S.)

### Program Coordinator/Contact

Tracy Nelson, Coordinator
School of Health and Consumer Sciences
Wagner Hall 139, Box 2275A
605-688-4034

### Program Information

A major in Physical Education Teacher Education (PETE) is intended to prepare teacher candidates for entry into public and private PK-12 education settings. Upon completion of the PETE curriculum, the successful completion of student teaching, and the requisite Praxis II content and licensure exams, teacher candidates are eligible to apply for teacher licensure in South Dakota and other states. In addition to completing the courses required of the curriculum, teacher candidates will complete field and clinical experiences related to their coursework, beginning with the first semester they are officially admitted to the PETE program. These experiences are in addition to those field experiences that are part of the Teacher Education program.

### Student Learning Outcomes

Upon completion of the Physical Education Teacher Education major, teacher candidates:

- Demonstrate an understanding of common and specialized content, and scientific and theoretical foundations for the delivery of an effective preK-12 physical education program.
- Are physically literate individuals who can demonstrate skillful performance in physical education content areas and health-enhancing levels of fitness.
- Are able to apply content and foundational knowledge to plan and implement developmentally appropriate learning experiences aligned with local, state and SHAPE America National Standards and Grade-Level Outcomes for K-12 Physical Education through the effective use of resources, accommodations, and/or modifications, technology and metacognitive strategies to address the diverse needs of all students.
- Will engage students in meaningful learning experiences through effective use of pedagogical skills. They use communication, feedback, and instructional and managerial skills to enhance learning.
- Are able to select and implement appropriate assessments to monitor students' progress and guide decision making related to instruction and learning.
- Demonstrate behaviors essential to becoming effective professionals. They exhibit professional ethics and culturally competent practices; seek opportunities for continued professional development; and demonstrate knowledge of promotion/advocacy strategies for physical education and expanded physical activity opportunities that support the development of physically literate individuals.

### Program Application

Admission to the PETE program requires completion and submission of an official PETE program application. The application is due to the PETE Coordinator no later than February 1, and can be obtained from the PETE Coordinator or the PETE Professional Advisor.

Specific requirements for admission include a minimum cumulative GPA of 2.5, minimum grade of C in ENGL 101, CMST 101, MATH 114, and enrolled in or completion of (with a minimum C) PE 185-185L. Application decisions are determined in time for early registration for the following fall semester. Students will either be fully accepted or accepted pending receipt of spring grades. If you have questions about this policy, please contact the PETE Coordinator.

### Program Assessment

Technical standards and elements from the National Association of Sport and Physical Education aid in development of assessments used throughout the PETE program. Teacher candidates are assessed frequently on performance as well as teaching and Professional Dispositions. These assessments are kept on file as part of the PETE assessment program. Additionally, the PETE Coordinator monitors semester and cumulative GPA and communicates with teacher candidates.

### Academic Requirements

- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with school/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's K-12 preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

This program meets professional licensure in South Dakota. At this time SDSU cannot confirm this program or its courses meet requirements for professional licensure in states outside of South Dakota. Assistance will be provided to candidates in contacting the licensing authority in the student's state and understanding the requirements for licensure. Please contact Dr. Tracy Nelson at Tracy.Nelson@sdstate.edu / 605-688-4034.

### Course Delivery Format

The program provides instruction through traditional classroom settings, hybrid and distance learning (on-line) settings, as well as classes that mix of classroom, lab and field/clinical experiences.

### Requirements for Physical Education Teacher Education Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- DANC 130 - Dance Fundamentals Credits: 1
- DANC 241-241L - Creative Movement for Children and Lab Credits: 2
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- ENGL 379 - Technical Communication (COM) Credits: 3
- EXS 354-354L - Prevention and Care of Athletic Injuries and Lab (COM) Credits: 2
- HDFS 227 - Human Development and Personality I: Childhood Credits: 3 or HDFS 237 - Human Development II: Adolescence Credits: 3
- HLTH 220 - Social Determinants of Health Credits: 3
- HLTH 250-250L - Pre-Professional First Aid and CPR and Lab (COM) Credits: 2
- HLTH 420-520 - K-12 Methods of Health Instruction (COM) Credits: 2
- PE 185-185L - Introduction to Teaching Physical Literacy and Lab Credits: 3
- PE 220-220L - Skills and Fitness Based Competencies: Fitness and Lab Credits: 3
- PE 221-221L - Skills & Fitness Based Competencies: Lifetime Activities and Lab Credits: 3
- PE 222-222L - Skills & Fitness Based Competencies: Tactical Games and Lab Credits: 3
- PE 275-275L - Science of Movement and Lab Credits: 3
- PE 300 - Applied Sport and Exercise Science (COM) Credits: 3
- PE 341 - Curriculum Development and Evaluation (COM) Credits: 2
- PE 342-342L - Experiential Education in Physical Education and Lab Credits: 3
- PE 352 - Adapted Physical Education (COM) Credits: 2
- PE 360-360L - K-8 Physical Education Methods and Lab (COM) Credits: 2
- PE 460-460L - Theories, Strategies, and Application of Management and Instruction and Lab Credits: 4
- PE 461 - Professionalism, Ethics, and Law Credits: 2
- PE 478 - Student Teaching I Credits: 2
- PE 479 - Student Teaching II Credits: 6-10 (7 credits required)
- PE 483 - Fundamentals and Theories of Coaching (COM) Credits: 2
- PE 484 - Fundamentals and Theories of Coaching: Field Experience (COM) Credits: 1
- PE 488 - Student Teaching III Credits: 6-10 (7 credits required)
- SEED 450 - Reading and Content Literacy (COM) Credits: 2

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 83 Credit Hours |
| Electives** | 3 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Physical Education Teacher Education (B.S.)

## Physics (B.S.)

### Program Coordinator/Contact

Douglas Raynie, Department Head
Department of Physics
Daktronics Engineering Hall 255
605-688-5428

### Program Information

Physics is the foundation of almost all of the science and engineering disciplines. The curriculum in Physics has the flexibility to accommodate a wide range of student interests including engineering, physical science, mathematics, biological science, or health sciences. Graduates find careers in physics research, education, engineering, medicine, nuclear medicine, law, science journalism or alternatively many other choices.

### Student Learning Outcomes

Upon the completion of the Physics major, students will:

- Support an environment that is inclusive to everyone regardless of race, ethnicity, gender, gender identity, sexual orientation, or disability status.
- Be able to write a laboratory report that is appropriate for the discipline of physics and suitable for publication in an undergraduate research journal.
- Defend a hypothesis or a research project by giving an oral presentation in a colloquium setting.
- Solve complex physics problems by applying scientific and mathematical principles.
- Design experiments; build and use equipment; gather, analyze and interpret experimental data; and draw conclusions based upon the data.
- Propose creative solutions for key issues of scientific, social, economic, or environmental merit and defend their hypothesis in either a research paper or by generating a proposal for an experimental design.

### Academic Requirements

The program requires a cumulative GPA of 2.0 or above for all physics courses and a GPA 2.0 or above in PHYS 211-213 (or PHYS 111-113) and PHYS 331.

### Course Delivery Format

Physics students learn through hands-on and face to face learning in lecture, laboratory, and field based experiences.

### Requirements for Physics Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3 or ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3 [1]
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4 and PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4 or PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4 and PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4

### Department of Physics Requirements

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details.

### Major Requirements

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CSC 150 - Computer Science I (COM) Credits: 3
- EE 216-216L - Linear Circuits I and Lab Credits: 3, 1
- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- PHYS 119 - First Year Seminar in Physics (COM) Credits: 1
- PHYS 316-316L - Measurement Theory and Experiment Design and Lab Credits: 2
- PHYS 318 - Advanced Laboratory I Credits: 2
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
- PHYS 341 - Thermodynamics (COM) Credits: 2
- PHYS 343 - Statistical Physics (COM) Credits: 2
- PHYS 421-521 - Electromagnetism (COM) Credits: 4
- PHYS 451-551 - Classical Mechanics (COM) Credits: 4
- PHYS 490 - Seminar (COM) Credits: 1-3 (2 credits required)

### Major Electives

Select one elective group based on career objectives. Credits: 36

### Group 1: Professional and Applied Physics

- MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3
  or PHYS 481-581 - Mathematical Physics (COM) Credits: 4
  or STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
- PHYS 418 - Advanced Lab II Credits: 1
- PHYS 471-571 - Quantum Mechanics (COM) Credits: 4
- Electives: 8-9
- Technical Electives: 19
  - Up to a total of 3 credits may be NE/PHYS x94, x96, x98 total
  - Technical electives will be selected from the following list of approved courses. Any departures from this list must be approved by the Head of the Physics Department. One may <u>not</u> count a specific course required for an elective group as also counting towards elective credit requirements of the elective group.
    - CHEM 332-332L - Analytical Chemistry and Lab (COM) Credits: 3, 1
    - EE 218-218L - Linear Circuits II and Lab Credits: 3, 1
    - EE 222-222L - Energy Conversion and Lab Credits: 3, 1
    - EE 320-320L - Electronics I (COM) Credits: 3, 1
    - EM 321 - Mechanics of Materials (COM) Credits: 3
    - EM 331 - Fluid Mechanics (COM) Credits: 3
    - GE 121 - Engineering Design Graphics I Credits: 1
    - GE 123 - Computer Aided Drawing Credits: 1
    - MATH 315 - Linear Algebra (COM) Credits: 4
    - MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3
    - MATH 374 - Scientific Computation I Credits: 3
    - ME 415 - Heat Transfer Credits: 3
    - NE/PHYS 437-537 - Foundations of Health Physics Credits: 3
    - NE 435-535 - Introduction to Nuclear Engineering Credits: 3
    - NE 494 - Internship (COM) Credits: 1-3
    - NE 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3
    - PHIL 200 - Introduction to Logic (COM) [SGR #4] Credits: 3
    - PHYS 185-185L - Solar System Astronomy and Lab (COM) [SGR #6] Credits: 3
    - PHYS 187-187L - Stars, Galaxies, and Cosmology and Lab (COM) [SGR #6] Credits: 3
    - PHYS 361 - Optics (COM) Credits: 3
    - PHYS 418 - Advanced Lab II Credits: 1
    - PHYS 433-533 - Nuclear and Elementary Particle Physics (COM) Credits: 3
    - PHYS 439-539 - Condensed Matter Physics (COM) Credits: 3-4 (4 credits required)
    - PHYS 471-571 - Quantum Mechanics (COM) Credits: 4
    - PHYS 481-581 - Mathematical Physics (COM) Credits: 4
    - PHYS 494 - Internship (COM) Credits: 1-4
    - PHYS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12

- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3

### Group 2: Health/Medical Physics

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
  or CHEM 332-332L - Analytical Chemistry and Lab (COM) Credits: 3, 1
  or PHYS 471-571 - Quantum Mechanics (COM) Credits: 4
- NE 437-537 - Foundations of Health Physics Credits: 3
- NE 435-535 - Introduction to Nuclear Engineering Credits: 3
  or PHYS 433-533 - Nuclear and Elementary Particle Physics (COM) Credits: 3
- PHYS 418 - Advanced Lab II Credits: 1
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
- Electives: 2

### Group 3: Flexible Emphasis

- Electives: 9
- Directed Electives: 20
- Technical Electives: 7
  - Up to a total of 3 credits may be NE/PHYS x94, x96, x98 total
  - Technical electives will be selected from the following list of approved courses. Any departures from this list must be approved by the Head of the Physics Department. One may not count a specific course required for an elective group as also counting towards elective credit requirements of the elective group.
    - CHEM 332-332L - Analytical Chemistry and Lab (COM) Credits: 3, 1
    - EE 218-218L - Linear Circuits II and Lab Credits: 3, 1
    - EE 222-222L - Energy Conversion and Lab Credits: 3, 1
    - EE 320-320L - Electronics I (COM) Credits: 3, 1
    - EM 321 - Mechanics of Materials (COM) Credits: 3
    - EM 331 - Fluid Mechanics (COM) Credits: 3
    - GE 121 - Engineering Design Graphics I Credits: 1
    - GE 123 - Computer Aided Drawing Credits: 1
    - MATH 315 - Linear Algebra (COM) Credits: 4
    - MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3
    - MATH 374 - Scientific Computation I Credits: 3
    - ME 415 - Heat Transfer Credits: 3
    - NE/PHYS 437-537 - Foundations of Health Physics Credits: 3
    - NE 435-535 - Introduction to Nuclear Engineering Credits: 3
    - NE 494 - Internship (COM) Credits: 1-3
    - NE 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3
    - PHIL 200 - Introduction to Logic (COM) [SGR #4] Credits: 3
    - PHYS 185-185L - Solar System Astronomy and Lab (COM) [SGR #6] Credits: 3
    - PHYS 187-187L - Stars, Galaxies, and Cosmology and Lab (COM) [SGR #6] Credits: 3
    - PHYS 361 - Optics (COM) Credits: 3
    - PHYS 418 - Advanced Lab II Credits: 1
    - PHYS 433-533 - Nuclear and Elementary Particle Physics (COM) Credits: 3
    - PHYS 439-539 - Condensed Matter Physics (COM) Credits: 3-4 (4 credits required)
    - PHYS 471-571 - Quantum Mechanics (COM) Credits: 4
    - PHYS 481-581 - Mathematical Physics (COM) Credits: 4
    - PHYS 494 - Internship (COM) Credits: 1-4
    - PHYS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12
    - STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Department of Physics Requirements* | 13+ Credit Hours |
| Major Requirements | 84 Credit Hours |
| Electives** | 0 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Physics (B.S.)

## Physics (B.S.) - Science Teaching Specialization

### Program Coordinator/Contact

Douglas Raynie, Department Head
Department of Physics
Daktronics Engineering Hall 255
605-688-5428

### Program Information

Physics is the foundation of almost all of the science and engineering disciplines. The curriculum in Physics has the flexibility to accommodate a wide range of student interests including engineering, physical science, mathematics, biological science, or health sciences. Graduates find careers in physics research, education, engineering, medicine, nuclear medicine, law, science journalism or alternatively many other choices.

### Student Learning Outcomes

Upon completion of the Physics - Science Teaching Specialization, students will be able to:

- Support an environment that is inclusive to everyone regardless of race, ethnicity, gender, gender identity, sexual orientation, or disability status.
- Write a laboratory report that is appropriate for the discipline of physics and suitable for publication in an undergraduate research journal.
- Defend a hypothesis or a research project by giving an oral presentation in a colloquium setting.
- Solve complex physics problems by applying scientific and mathematical principles.
- Design experiments; build and use equipment; gather, analyze and interpret experimental data; and draw conclusions based upon the data.
- Propose creative solutions for key issues of scientific, social, economic, or environmental merit and defend their hypothesis in either a research paper or by generating a proposal for an experimental design.

### Academic Requirements

- The program requires a cumulative GPA of 2.0 or above for all physics courses and a GPA 2.0 or above in PHYS 211-213 (or PHYS 111-113) and PHYS 331.
- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's Secondary preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.

- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Physics students learn through hands-on and face to face learning in lecture, laboratory, and field based experiences.

### Requirements for Physics Major - Science Teaching Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3 or ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: GEOG 210 - World Regional Geography (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: PHIL 200 - Introduction to Logic (COM) [SGR #4] Credits: 3 and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- Goal #6 Natural Sciences: PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4 and PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4

### Department of Physics Requirements

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details.

### Major Requirements

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- EE 216-216L - Linear Circuits I and Lab Credits: 3, 1
- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- PHYS 119 - First Year Seminar in Physics (COM) Credits: 1
- PHYS 185-185L - Solar System Astronomy and Lab (COM) [SGR #6] Credits: 3
  or PHYS 187-187L - Stars, Galaxies, and Cosmology and Lab (COM) [SGR #6] Credits: 3
- PHYS 316-316L - Measurement Theory and Experiment Design and Lab Credits: 2
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
- PHYS 437-537 - Foundations of Health Physics Credits: 3
- PHYS 341 - Thermodynamics (COM) Credits: 2
- PHYS 343 - Statistical Physics (COM) Credits: 2
- PHYS 421-521 - Electromagnetism (COM) Credits: 4
- PHYS 451-551 - Classical Mechanics (COM) Credits: 4
- PHYS 490 - Seminar (COM) Credits: 1-3 (2 credits required)

### Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3 (Department Requirement)
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- SEED 413 - 7-12 Science Methods (COM) Credits: 3 (Teaching Content Methods Requirement)
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 33 Credit Hours |
| Department of Physics Requirements* | 13+ Credit Hours |
| Major Requirements | 49 Credit Hours |
| Teaching Specialization Requirements | 34 Credits Hours |
| Electives** | 1 Credit Hour |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

Physics (B.S.) - Science Teaching Specialization

## Political Science (B.A./B.S.)

### Program Coordinator/Contact

Evren Celik Wiltse, Associate Professor of Political Science
School of American and Global Studies
West Hall Room 226, Box 510
605-688-4311

### Program Information

The study of Political Science examines political processes, governments, and international relations. The Bachelor of Science and Bachelor of Arts degrees in Political Science prepare graduates for a career in government - at state, local and federal levels, private sectors, advocacy organizations including political parties, and non-profit agencies. It is a flexible degree that offers multiple career tracks. Many of our students successfully pursue advanced degree in law school and other graduate programs.

### Student Learning Outcomes

Students with a major in Political Science will:

- Demonstrate knowledge of concepts, theories and methods of political science, political systems beyond the United States, and political issues facing traditionally underrepresented communities.
- Develop critical thinking skills by a) including a disciplined, skeptical outlook on the world; b) assessing multiple - and often countervailing - theoretical perspectives, and c) recognizing the difference between strong and weak arguments based on evidence.
- Understand international perspectives, a necessary prerequisite to becoming active and responsible global citizens.

- Express themselves effectively through oral and written communication. This includes framing scholarly questions and developing discipline appropriate research strategies to address them.

### Academic Requirements

No grade below a "C" in political science courses may be used to fulfill major or minor requirements.

### Course Delivery Format

The program provides courses online and face to face on campus and at various off-campus attendance centers.

### Requirements for Political Science Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- POLS 100 - American Government (COM) [SGR #3] Credits: 3
- POLS 102 - American Political Issues (COM) [SGR #3] Credits: 3
  or POLS 141 - Governments of the World (COM) [SGR #3] Credits: 3
- POLS 253 - Current World Issues [SGR #3] Credits: 3
- POLS 388 - Research Methods Credits: 3
- POLS 489 - Capstone (COM) Credits: 3 (Capstone)
- POLS Electives Credits: 6
  (excludes CJUS/POLS 201 Introduction to Criminal Justice)
- 300-400 Level Political Science courses Credits: 15
  A maximum of 6 credits may be selected from the following courses:
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- GEOG 459-559 - Political Geography (COM) Credits: 3
- HIST 381 - Imperialism, Then and Now Credits: 3

### Select from the following

300-400 Level Non-American POLS course. Select one of the following courses. Credits: 3

- POLS 341 - Europe Democratic Government (COM) Credits: 3
- POLS 345 - Model United Nations (COM) Credits: 3
- POLS 350 - International Relations (COM) Credits: 3
- POLS 447 - Latin American Politics (COM) Credits: 3
- POLS 452 - Globalization and Development (COM) Credits: 3
- POLS 453 - American Foreign Policy (COM) Credits: 3
- POLS 457 - Foreign Policy Decision Making Credits: 3
- POLS 458 - Democracy and Authoritarianism (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

| | |
|---|---|
| **Bachelor of Arts** | |
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 39 Credit Hours |
| Electives** | 42 Credit Hours |
| **Bachelor of Science** | |
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 39 Credit Hours |
| Electives** | 44 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Political Science (B.A.)
- Political Science (B.S.)

## Precision Agriculture (B.S.)

### Program Coordinator/Contact

Van Kelley, Department Head
Department of Agricultural and Biosystems Engineering
Raven Precision Agriculture Center 136
605-688-5143

David Wright, Department Head
Department of Agronomy, Horticulture, and Plant Science
Raven Precision Agriculture Center 140
605-688-5123

Kristen Stuckey, Program Coordinator
Department of Agricultural and Biosystems Engineering
Raven Precision Agriculture Center 136
605-688-5144

### Program Information

The Precision Agriculture major prepares students for careers that bridge the gaps between agronomy, agriculture machinery management, and data sciences caused by the rapid evolution of high-speed sensor technology.

### Student Learning Outcomes

Upon completion of the Precision Agriculture major, students will:

- Demonstrate foundational and specialized knowledge in crop management, environmental stewardships, and precision agriculture technologies and their integrations at local, regional, and global scales.
- Explore complex local, regional, and global issues using a precision agriculture perspective to formulate questions and draw informed conclusions that are based on critical scientific analysis and interpretation of information.
- Demonstrate economic and environmental proficiency in applying the proper principles and technologies of precision agriculture and to address socioeconomic issues in Agricultural sciences.
- Demonstrate the ability to collect, organize, analyze, and synthesize accurate digital field maps using specialized software and have the operational knowledge for specialized precision agriculture equipment, computers, and

spreadsheet applications to produce meaningful management recommendations.

- Effectively communicate and demonstrate openness to new perspectives and diverse others, and demonstrate the ability to reassess their personal perspective within precision agriculture activities when appropriate.

### Academic Requirements

Students must earn at least a C grade in each major required class and must earn at least a 2.5 cumulative GPA in the major required classes including PS 213-213L and ABS 475-475L.

### Course Delivery Format

Instruction will occur through a combination of traditional classroom methods, laboratory exercises using current agricultural production technologies, and agricultural mapping software.

### Requirements for Precision Agriculture Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: ABS 203 - Global Food Systems [SGR #3] Credits: 3 and ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- ABS 203 - Global Food Systems [SGR #3] Credits: 3 (SGR 3)
- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3 (Major Requirement)
- AST 333-333L - Soil and Water Mechanics and Lab Credits: 3 (Major Requirement)
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1 (Major Requirement)

### Major Requirements

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
  or AGEC 271 - Farm and Ranch Management Credits: 3
  or AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AST 119 - First Year Seminar Credits: 1
  or PS 119 - First Year Seminar Credits: 1
- AST 273-273L - Agricultural Computer Applications and Lab Credits: 3
- AST 313-313L - Farm Machinery Systems Management and Lab Credits: 3
- AST 333-333L - Soil and Water Mechanics and Lab Credits: 3
- AST 390 - Seminar (COM) Credits: 1
  or PS 490 - Seminar (COM) Credits: 1
- AST 412-412L - Fluid Power Technology and Lab Credits: 3
- AST 426-426L - Technology Applications for Precision Agriculture and Lab Credits: 3
  or PRAG 428 - Use of Soil and Plant Sensors in Crop Production Credits: 3
- AST 494 - Internship (COM) Credits: 1-12 (1 credit required)
  or PS 494 - Internship (COM) Credits: 1-2 (1 credit required)
- PRAG 203-203L - Introduction to Precision Agriculture and Lab Credits: 3
- PRAG 304-304L - Electrical Diagnostics for Farm Machinery and Lab Credits: 3
- PRAG 340 - Climate Risk Management with Precision Agriculture Credits: 3
- PRAG 345-345L - Principles and Implications of Chemical Application Systems and Lab Credits: 3
- PRAG 410-410L/510-510L - Soil Geography and Land Use Interpretation and Lab Credits: 2, 1
  or PS 462-462L/562-562L - Environmental Soil Management and Lab Credits: 3
- PRAG 423-523 - Soil Fertility and Plant Nutrient Management Credits: 3
- PRAG 427-527 - Precision Ag Data Mapping Credits: 2
- PRAG 440-440L/540-540L - Crop Management with Precision Farming and Lab Credits: 3
- PS 103-103L - Crop Production and Lab Credits: 2, 1
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- PS 223-223L - Principles of Plant Pathology and Lab Credits: 2, 1
- PS 405-405L/505-505L - Entomology and Lab (COM) Credits: 3
  or PS 407-407L/507-507L - Insect Pest Management and Lab Credits: 2, 1
- PS 445-445L/545-545L - Weed Science and Lab Credits: 3
- STAT 383 - Geospatial Data Analysis Credits: 3

### Select from the following

Select four credits from the following three courses. Credits: 4

- PRAG 424-524 - Wheat Production Credits: 2
- PRAG 425-525 - Soybean Production Credits: 2
- PRAG 426-526 - Corn Production Credits: 2

### Supporting Coursework

- AST 342-342L - Applied Electricity and Lab Credits: 3
- BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3
- CHEM 120-120L - Elementary Organic Chemistry and Lab Credits: 2, 1
- PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 31 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 69 Credit Hours |
| Supporting Coursework | 16 Credit Hours |
| Electives** | 4 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Precision Agriculture (B.S.)

## Psychology (B.A./B.S.)

### Program Coordinator/Contact

Elizabeth Koob, Professional Advisor
School of Psychology, Sociology and Rural Studies
Hansen Hall 102
605-688-6296

### Program Information

Psychology is the discipline concerned with the study of behavior and mental processes. It is a tremendously broad field spanning subject matter from the biological to social sciences. The study of psychology prepares students for work in fields like health care, counseling, education, social work, human resources, statistics, probation and corrections, business, politics, public relations, and more. Psychologists are commonly found working in conjunction with other

professionals to contribute to every area of society. Advisors assist students to personalize curriculum plans to meet career and educational goals.

### Student Learning Outcomes

In the Psychology major, students will:

- Express fundamental knowledge and comprehension of major concepts in psychology.
- Apply scientific reasoning to psychological issues/problems.
- Show an understanding of diversity and ethical/social responsibility in professional settings.
- Write competently in APA style.
- Demonstrate oral competency.

### Academic Requirements

Psychology does not permit the double use of courses in its major with a minor. All psychology courses that count toward the major must receive a C or better grade.

### Course Delivery Format

Psychology courses are delivered in multiple formats including face-to-face lecture and laboratory courses, as well as online courses.

### Requirements for Psychology Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and SGR #1 Elective Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- PSYC 375-375L - Research Methods in Psychology and Lab Credits: 4
- PSYC 376-376L - Research Methods II and Lab Credits: 4
- PSYC 409 - History and Systems of Psychology (COM) Credits: 3 (Capstone)

### Domain I

Select three from the following. Credits: 9

- PSYC 301 - Sensation and Perception (COM) Credits: 3
- PSYC 305 - Learning and Conditioning Credits: 3
- PSYC 406 - Cognitive Psychology (COM) Credits: 3
- PSYC 411 - Physiological Psychology (COM) Credits: 3
- PSYC 414 - Drugs and Behavior (COM) Credits: 3
- PSYC 417 - Health Psychology (COM) Credits: 3

### Domain II

Select three from the following. Credits: 9

- PSYC 244 - Environmental Psychology Credits: 3
- PSYC 327 - Child Psychology Credits: 3
- PSYC 364 - Cross Cultural Psychology Credits: 3
- PSYC 367 - Psychological Gender Issues Credits: 3
- PSYC 441 - Social Psychology (COM) Credits: 3
- PSYC 443 - Social Psychology of Prejudice (COM) Credits: 3

### Domain III

Select three from the following. Credits: 9

- PSYC 331 - Industrial and Organizational Psychology (COM) Credits: 3
- PSYC 357 - Psychological Therapies Credits: 3
- PSYC 358 - Behavior Modification Credits: 3
- PSYC 427 - Child Psychopathology Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- PSYC 492 - Topics (COM) Credits: 1-4 (3 credits required) (Organizational Development)

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

| Bachelor of Arts | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 38 Credit Hours |
| Electives** | 43 Credit Hours |
| **Bachelor of Science** | |
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 38 Credit Hours |
| Electives** | 45 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Psychology (B.A.)
- Psychology (B.S.)

## Psychology (B.A./B.S.) - Teaching Specialization

### Program Coordinator/Contact

Elizabeth Koob, Professional Advisor
School of Psychology, Sociology and Rural Studies
Hansen Hall 102
605-688-6296

### Program Information

Psychology is the discipline concerned with the study of behavior and mental processes. The teaching specialization prepares students to qualify for certification to teach psychology in one of thousands of schools nationwide. Students pursuing this specialization should contact the College of Education and Human Sciences before their junior year.

### Student Learning Outcomes

In the Psychology - Teaching Specialization, students will:

- Express fundamental knowledge and comprehension of major concepts in psychology.

- Apply scientific reasoning to psychological issues/problems.
- Show an understanding of diversity and ethical/social responsibility in professional settings.
- Write competently in APA style.
- Demonstrate oral competency.

### Academic Requirements

- Psychology does not permit the double use of courses in its major with a minor. All psychology courses that count toward the major must receive a C or better grade.
- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's Secondary preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Psychology courses are delivered in multiple formats including face-to-face lecture and laboratory courses, as well as online courses.

### Requirements for Psychology Major - Teaching Specialization: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and SGR #1 Elective Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- PSYC 375-375L - Research Methods in Psychology and Lab Credits: 4
- PSYC 376-376L - Research Methods II and Lab Credits: 4
- PSYC 409 - History and Systems of Psychology (COM) Credits: 3 (Capstone)

### Domain I

- PSYC 305 - Learning and Conditioning Credits: 3
- PSYC 406 - Cognitive Psychology (COM) Credits: 3

### Select from the following

Select from the following. Credits: 3

- PSYC 301 - Sensation and Perception (COM) Credits: 3
- PSYC 411 - Physiological Psychology (COM) Credits: 3
- PSYC 414 - Drugs and Behavior (COM) Credits: 3
- PSYC 417 - Health Psychology (COM) Credits: 3

### Domain II

- PSYC 327 - Child Psychology Credits: 3
- PSYC 367 - Psychological Gender Issues Credits: 3
- PSYC 441 - Social Psychology (COM) Credits: 3

### Domain III

- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3

### Select from the following

Select from the following. Credits: 6

- PSYC 331 - Industrial and Organizational Psychology (COM) Credits: 3
- PSYC 357 - Psychological Therapies Credits: 3
- PSYC 358 - Behavior Modification Credits: 3
- PSYC 427 - Child Psychopathology Credits: 3
- PSYC 492 - Topics (COM) Credits: 1-4 (3 credits required) (Organizational Development)

### Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3 (College Requirement)
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- SEED 415 - 7-12 Social Science Methods (COM) Credits: 3 (Teaching Content Methods Requirement)
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 38 Credit Hours |
| Teaching Specialization Requirements | 34 Credit Hours |
| Electives** | 9 Credit Hours |

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 38 Credit Hours |
| Teaching Specialization Requirements | 34 Credit Hours |

**Bachelor of Science**

| | |
|---|---|
| Electives** | 11 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Psychology (B.A.) - Teaching Specialization
- Psychology (B.S.) - Teaching Specialization

## Public Relations (B.A./B.S.)

### Program Coordinator/Contact

Joshua Westwick, Director
School of Communication and Journalism
Yeager Hall 211, Box 2235
605-688-4171

### Program Information

This major prepares students with essential written and visual communication, critical thinking, strategy, design, and research skills for careers in public relations and marketing communications.

### Student Learning Outcomes

Students completing a public relations major will be equipped to:

- Apply the principles and laws of freedom of speech and press, in a global context, and for the country in which the institution that invites ACEJMC is located;
- Demonstrate an understanding of the multicultural history and role of professionals and institutions in shaping communications;
- Demonstrate culturally proficient communication that empowers those traditionally disenfranchised in society, especially as grounded in race, ethnicity, gender, sexual orientation and ability, domestically and globally, across communication and media contexts;
- Present images and information effectively and creatively, using appropriate tools and technologies;
- Write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve;
- Demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness and diversity;
- Apply critical thinking skills in conducting research and evaluating information by methods appropriate to the communications professions in which they work;
- Effectively and correctly apply basic numerical and statistical concepts;
- Critically evaluate their own work and that of others for accuracy and fairness, clarity, appropriate style and grammatical correctness;
- Apply tools and technologies appropriate for the communications professions in which they work.

### Academic Requirements

Public Relations majors must have a GPA of 2.5 in required courses for the major, and must have grades of "C" or better in all major requirements. Students can not pursue a double major in any combination of Advertising, Journalism, or Public Relations. Students may pursue minors within the School of Communication and Journalism.

### Accreditation, Certification, and Licensure

The public relations major is accredited by the national accrediting body of journalism and mass communication, the Accrediting Council on Education in Journalism and Mass Communications (ACEJMC).

### Equipment and Supplies

Public Relations majors must have a laptop and appropriate software to successfully complete the coursework and be adequately prepared for their professional careers. Apple Macs are the dominant choice in the industry. Necessary software includes Adobe Creative Cloud and Microsoft Word-compatible word processing software, as well as presentation and spreadsheet software, such as PowerPoint and Excel.

### Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

### Requirements for Public Relations Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3 (Recommended CMST 201 - Interpersonal Communication (COM) [SGR #3] Credits: 3)
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- MCOM 119 - First-Year Seminar in Communication and Journalism Credits: 2
- MCOM 210-210L - Basic Newswriting and Lab (COM) Credits: 3
- MCOM 220-220L - Introduction to Digital Media and Lab (COM) Credits: 3
- MCOM 270 - Data Analysis in Communication Credits: 3
- MCOM 331-331L - Video Production and Lab (COM) Credits: 3
- MCOM 394 - Internship (COM) Credits: 1-12 (3 credits required)
  or MCOM 494 - Internship (COM) Credits: 1-12 (3 credits required)
- MCOM 416-516 - Mass Media in Society Credits: 3
  or ADV 476-576 - Global and Multicultural Advertising Credits: 3
  or CMST 470 - Intercultural Communication (COM) Credits: 3
- MCOM 430-530 - Media Law (COM) Credits: 3
- PUBR 243 - Public Relations Principles (COM) Credits: 3
- PUBR 345 - Public Relations Writing Credits: 3
- PUBR 411-411L - Media Analytics and Studio Credits: 3
- PUBR 442-442L - Integrated Marketing Communication and Campaigns Studio (COM) Credits: 3 (Capstone)

### Select from the following

Select nine credits from the following. Credits: 9

- ADV 314 - Digital Promotions Credits: 3
- ADV 371-371L - Advertising Copy and Design and Studio (COM) Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
- CMST 311 - Business and Professional Communication (COM) Credits: 3

- CMST 422 - Persuasion (COM) Credits: 3
- HMGT 355 - Events and Facilities Administration Credits: 3
- LMNO 201 - Introduction to Leadership and Management of Nonprofit Organizations Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- MCOM 265-265L - Basic Photography and Lab (COM) Credits: 3
- MCOM 266-266L - Photojournalism and Studio (COM) Credits: 3
- MCOM 359-359L - Mobile Media Design and Applications and Lab Credits: 3
- PUBR 472 - Research and Planning (COM) Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

#### Bachelor of Arts

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 44 Credit Hours |
| Electives** | 37 Credit Hours |

#### Bachelor of Science

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 44 Credit Hours |
| Electives** | 39 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Public Relations (B.A.)
- Public Relations (B.S.)

## Respiratory Care (A.S.)

### Program Coordinator/Contact

Lacy Patnoe, Program Director
Department of Allied and Population Health
Monument Health, Rapid City
605-755-3673

### Program Information

Respiratory Care is the health care discipline that specializes in the promotion of optimum cardiopulmonary function and health. Respiratory Therapists use science and technology to assess, treat, and manage care by use of diagnostic evaluation for patients with respiratory illnesses which would include the cardiac system. Knowledge of the scientific principles underlying cardiopulmonary physiology and pathophysiology, as well as biomedical engineering and technology, enable respiratory therapists to effectively assess, educate, and treat patients. Respiratory Therapists use technology in the education of patients about their disease and prevention of disease progression.

As a health care profession, Respiratory Care is practiced under medical direction across the health care continuum. Respiratory Care is specifically focused on the assessment, treatment, management, control, diagnostic evaluation, education, and care of patients with deficiencies and abnormalities of the cardiopulmonary system as well as on the prevention of the development of these deficiencies. Critical thinking, patient/environment assessment skills, and evidence-based clinical practice guidelines enable respiratory therapists to develop and implement effective care plans, patient-driven protocols, disease-based clinical pathways, and disease management programs. A variety of venues serve as the practice site for this health care profession including, but not limited to: acute care hospitals, diagnostic laboratories, rehabilitation and skilled nursing facilities, patients' homes, patient transport systems, physician office, convalescent and retirement centers, educational institutions, and wellness centers.

The respiratory care programs at South Dakota State University (SDSU) are designed as either an associate or bachelor's degree in respiratory care. The first fall and spring semesters of the A.S. program are spent on a university campus completing general education requirements. After the first year's classes are completed, the student has class and clinical experiences at the primary clinical affiliate hospitals (Avera McKennan and Sanford Hospitals in Sioux Falls or Monument Health Rapid City). Following completion of the A.S. portion, students can complete the B.S. degree (third and fourth year).

The field of respiratory care provides excellent opportunities for those interested in a dynamic and exciting career in cardiopulmonary sciences. Salaries for respiratory therapists are excellent and compare favorably with other allied health fields. Job opportunities for new graduates are also very good. According to data from the Bureau of Labor Statistics (BLS), employment of respiratory therapists is expected to grow by 19% between now and 2029, making respiratory care one of the fastest growing occupations. This increase in demand is expected because of substantial growth of the elderly population, and increases in the numbers of patients with asthma and chronic lung disease.

### Student Learning Outcomes

Upon completion of the A.S. and B.S. degree in Respiratory Care, students will:

- Be aware of acceptable attrition and retention rates.
- Have confidence in acceptable positive job placement.
- Achieve an acceptable score on the Comprehensive Written RRT Self-Assessment Exam (CWRRT SAE) prior to graduation from the AS program.
- Achieve the NBRC Registered Respiratory Therapist (RRT) credential prior to graduation from the BS program.
- Achieve acceptable credentialing success on the NBRC Certified Respiratory Therapist (CRT) Exam.
- Achieve acceptable credentialing success on the NBRC Registered Respiratory Therapist (RRT) Exam.
- Demonstrate overall satisfaction on the graduate surveys.
- Achieve a satisfactory rate of participation on the graduate surveys.

### Academic Requirements

Satisfactory academic progress is defined as:

- A final grade of at least "C" in each course in the program curriculum and an overall GPA of at least 2.60 on a 4.00 scale.
- If a student obtains an unsatisfactory final grade (D or F) in any class in the program curriculum and repeats it, the grade in which repeated class must be at least a "B". Any general education course in the respiratory care curriculum may be repeated more than once, but the final grade must be at least a "B".
- RESP prefix courses may be repeated only once to remove any unsatisfactory grade.
- Any general education course in the respiratory care curriculum may be repeated more than once, but the final grade must be at least a B. The maximum number of attempts per course is (3). No more than one "W" per course is permitted.
- Students must successfully pass the comprehensive final exam before graduating from the A.S. program.

### Accreditation, Certification, and Licensure

The Respiratory Care program holds continuing accreditation with the Commission on Accreditation for Respiratory Care (www.coarc.com), with the main clinical location in Sioux Falls (CoARC program number 200070) and a satellite location in Rapid City (CoARC program number 300015).

CoARC is the organization that accredits respiratory therapy education programs in the United States. To achieve this end, it utilizes an 'outcome-based' process. Programmatic outcomes are performance indicators that reflect the extent to which the educational goals of the program are achieved and by which program effectiveness is documented.

Immediately upon graduation from the A.S. program, you are eligible to take the credentialing examination of the National Board of Respiratory Care to become a Registered Respiratory Therapist. This credential allows you to obtain a license to work.

### Course Delivery Format

Courses are delivered through lecture, discussion, laboratory, and clinical practice experiences.

### Requirements for Respiratory Care Major: 68 Credits

*Associate of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1

### Major Requirements

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- RESP 105 - Respiratory Care Physical Science Credits: 3
- RESP 110-110L - Introduction to Respiratory Care and Lab Credits: 4, 2
- RESP 119 - Introduction to the Respiratory Care Profession Credits: 2
- RESP 150 - Clinical Experience I Credits: 4
- RESP 180 - Pathophysiology for Respiratory Care I Credits: 2
- RESP 210-210L - Respiratory Critical Care and Lab Credits: 3, 2
- RESP 250 - Clinical Experience II Credits: 5
- RESP 280 - Pathophysiology for Respiratory Care II Credits: 3
- RESP 310 - Advanced Respiratory Care Credits: 4
- RESP 350 - Clinical Experience III Credits: 5
- RESP 355 - Respiratory Care in Clinical Medicine Credits: 3
- RESP 395 - Practicum (COM) Credits: 2

### Total Required Credits: 68

### Summary of Program Requirements

#### Associate of Science

| | |
|---|---|
| System General Education Requirements | 20 Credit Hours |
| Major Requirements | 48 Credit Hours |
| Electives | 0 Credit Hours |

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Respiratory Care (A.S.)

## Respiratory Care (B.S.)

### Program Coordinator/Contact

Lacy Patnoe, Program Director
Department of Allied and Population Health
Monument Health, Rapid City
605-755-3673

### Program Information

Respiratory Care is the health care discipline that specializes in the promotion of optimum cardiopulmonary function and health. Respiratory Therapists use science and technology to assess, treat, and manage care by use of diagnostic evaluation for patients with respiratory illnesses which would include the cardiac system. Knowledge of the scientific principles underlying cardiopulmonary physiology and pathophysiology, as well as biomedical engineering and technology, enable respiratory therapists to effectively assess, educate, and treat patients. Respiratory Therapists use technology in the education of patients about their disease and prevention of disease progression.

As a health care profession, Respiratory Care is practiced under medical direction across the health care continuum. Respiratory Care is specifically focused on the assessment, treatment, management, control, diagnostic evaluation, education, and care of patients with deficiencies and abnormalities of the cardiopulmonary system as well as on the prevention of the development of these deficiencies. Critical thinking, patient/environment assessment skills, and evidence-based clinical practice guidelines enable respiratory therapists to develop and implement effective care plans, patient-driven protocols, disease-based clinical pathways, and disease management programs. A variety of venues serve as the practice site for this health care profession including, but not limited to: acute care hospitals, diagnostic laboratories, rehabilitation and skilled nursing facilities, patients' homes, patient transport systems, physician office, convalescent and retirement centers, educational institutions, and wellness centers.

The respiratory care programs at South Dakota State University (SDSU) are designed as either an associate or bachelor's degree in respiratory care. The first fall and spring semesters of the A.S. program are spent on a university campus completing general education requirements. After the first year's classes are completed, the student has class and clinical experiences at the primary clinical affiliate hospitals (Avera McKennan and Sanford Hospitals in Sioux Falls or Monument Health Rapid City). Following completion of the A.S. portion, students can complete the B.S. degree (third and fourth year).

The field of respiratory care provides excellent opportunities for those interested in a dynamic and exciting career in cardiopulmonary sciences. Salaries for respiratory therapists are excellent and compare favorably with other allied health fields. Job opportunities for new graduates are also very good. According to data from the Bureau of Labor Statistics (BLS), employment of respiratory therapists is expected to grow 19% between now and 2029, making RC one of the fastest growing occupations. This increase in demand is expected because of substantial growth of the elderly population, and increases in the numbers of patients with asthma and chronic lung disease.

The Bachelor of Science degree in respiratory care continues the work begun in understanding the medical and scientific applications of today's health care field while incorporating the technology available to today's respiratory care practitioner.

### Student Learning Outcomes

In the Respiratory Care major, students will:

- Be aware of acceptable attrition and retention rates.
- Have confidence in acceptable positive job placement.
- Achieve an acceptable score on the Comprehensive Written RRT Self-Assessment Exam (CWRRT SAE) prior to graduation from the AS program.
- Achieve the NBRC Registered Respiratory Therapist (RRT) credential prior to graduation from the BS program.
- Achieve acceptable credentialing success on the NBRC Certified Respiratory Therapist (CRT) Exam.
- Achieve acceptable credentialing success on the NBRC Registered Respiratory Therapist (RRT) Exam.
- Demonstrate overall satisfaction on the graduate surveys.
- Achieve a satisfactory rate of participation on the graduate surveys.

### Admission Requirements

Students must complete the Respiratory Care (A.S.) degree from South Dakota State University or equivalent.

### Academic Requirements

Satisfactory academic progress is defined as:

- A final grade of at least "C" in each course in the program curriculum and an overall GPA of at least 2.60 on a 4.00 scale.
- If a student obtains an unsatisfactory final grade (D or F) in any class in the program curriculum and repeats it, the grade in which repeated class must be at least a "B". Any general education course in the respiratory care curriculum may be repeated more than once, but the final grade must be at least a "B".
- RESP prefix courses may be repeated only once to remove any unsatisfactory grade.
- Any general education course in the respiratory care curriculum may be repeated more than once, but the final grade must be at least a B. The maximum number of attempts per course is (3). No more than one "W" per course is permitted.
- Achieve the National Board for Respiratory Care (RRT) credential prior to graduation from the B.S. program.

### Accreditation, Certification, and Licensure

### Licensure

Immediately upon graduation from the A.S. program, you are eligible to take the credentialing examination of the National Board of Respiratory Care to become a Registered Respiratory Therapist. This credential allows you to obtain a license to work.

### Course Delivery Format

Courses are delivered through lecture, discussion, laboratory, and clinical practice experiences.

### Requirements for Respiratory Care Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 * and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3 *
- Goal #3 Social Sciences/Diversity: PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3 * and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3 *
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 * and CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1 * or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1 *

### Major Requirements

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4 *
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
- PHA 330 - Pharmacology for Allied Health Professions Credits: 3
- RESP 105 - Respiratory Care Physical Science Credits: 3 *
- RESP 110-110L - Introduction to Respiratory Care and Lab Credits: 4, 2 *
- RESP 119 - Introduction to the Respiratory Care Profession Credits: 2 *
- RESP 150 - Clinical Experience I Credits: 4 *
- RESP 180 - Pathophysiology for Respiratory Care I Credits: 2 *
- RESP 210-210L - Respiratory Critical Care and Lab Credits: 3, 2 *
- RESP 250 - Clinical Experience II Credits: 5 *
- RESP 280 - Pathophysiology for Respiratory Care II Credits: 3 *
- RESP 310 - Advanced Respiratory Care Credits: 4 *
- RESP 350 - Clinical Experience III Credits: 5 *
- RESP 355 - Respiratory Care in Clinical Medicine Credits: 3 *
- RESP 360 - Communication Skills for Respiratory Care Credits: 3
- RESP 380 - Respiratory Care for Special Populations Credits: 3
- RESP 395 - Practicum (COM) Credits: 2 *
- RESP 420 - Critical Review of Healthcare Research Credits: 3
- RESP 440 - Ethics for Health Professionals Credits: 4
- RESP 450 - Advanced Concepts in Adult and Neonatal/Pediatric Respiratory Care Credits: 3
- RESP 460 - Current Issues in Respiratory Care Credits: 4
- RESP 489 - Capstone Project Credits: 3
- RESP 495 - Practicum (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Note

* Coursework completed as part of the Associate of Science in Respiratory Care.

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| Major Requirements | 88 Credit Hours |
| Electives** | 0 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Respiratory Care (B.S.)

## Sociology (A.S.)

### Program Coordinator/Contact

Elizabeth Koob, Professional Advisor
School of Psychology, Sociology and Rural Studies
Hansen Hall 102
605-688-6296

### Program Information

Sociology involves the study of social institutions, organizations and issues. The Sociology program will provide an associate-level credential to prepare graduates to serve in entry-level positions in human services, human resources, office and management assistance, and criminal justice/law enforcement. Students can choose to take courses specific to working in the helping professions. Completion of the A.S. in Sociology will allow students to transfer 60 credits of coursework towards the bachelor's degree in Sociology.

### Student Learning Outcomes

In the Sociology major, students will:

- Apply sociological theories to understand social phenomena.
- Critically evaluate explanations of human behavior and social phenomena.
- Apply scientific principles to understand the social world.
- Evaluate the quality of social scientific methods and data.
- Rigorously analyze social scientific data.
- Use sociological knowledge to inform policy debates and promote public understanding.

### Academic Requirements

- A minimum GPA of 2.2.
- A Grade of C or better in all major courses.

### Course Delivery Format

The coursework for the program is provided online, on campus, and at attendance centers around the state.

### Requirements for Sociology Major: 60 Credits

*Associate of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Elective Credits: 3

### Major Requirements

- SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- SOC 283 - Working with Diverse Populations Credits: 3
- SOC 284 - Investigating the Social World Credits: 3

### Select from the following

Select 18 credits from the following. Credits: 18

- SOC 150 - Social Problems (COM) [SGR #3] Credits: 3
- SOC 240 - The Sociology of Rural America (COM) [SGR #3] Credits: 3
- SOC 245 - Environment and Society Credits: 3
- SOC 250 - Courtship and Marriage (COM) [SGR #3] Credits: 3
- SOC 270 - Introduction to Social Work (COM) Credits: 3
- SOC 271 - Social Work Skills and Methods I Credits: 3
- SOC 282 - Youth and Community Credits: 3
- SOC 286 - Service Learning Credits: 1-3
- SOC 294 - Internship (COM) Credits: 1-12

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 60

### Summary of Program Requirements

**Associate of Science**

| | |
|---|---|
| System General Education Requirements | 24 Credit Hours |
| Major Requirements | 27 Credit Hours |
| Electives** | 9 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

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- Sociology (A.S.)

## Sociology (B.A./B.S.)

### Program Coordinator/Contact

Elizabeth Koob, Professional Advisor
School of Psychology, Sociology and Rural Studies
Hansen Hall 102
605-688-6296

### Program Information

The world awaits all who have a major in sociology. The mission of the School of Psychology, Sociology and Rural Studies is to provide students with the theoretical and substantive knowledge to participate as skilled professionals within the institutions and organizations that shape our increasingly diverse and global society. Students receive a broad liberal arts education that will qualify them for many different kinds of occupations, such as group work with youth or the elderly, community development, business, college admissions, family planning, criminal justice, and other government jobs. In addition to majors in Criminology, Psychology, and Sociology, the School also offers minors in Criminal Justice, Mental Health Services, Psychology, Social and Human Services, Sociology, and Youth and Community Work.

### Student Learning Outcomes

In the Sociology major, students will:

- Apply sociological theories to understand social phenomena.
- Critically evaluate explanations of human behavior and social phenomena.
- Apply scientific principles to understand the social world.
- Evaluate the quality of social scientific methods and data.
- Rigorously analyze social scientific data.
- Use sociological knowledge to inform policy debates and promote public understanding.

### Academic Requirements

- A minimum GPA of 2.2.
- A Grade of C or better in all major courses.
- No SOC class may be used for the major AND the Criminal Justice (CJUS) minor.

### Course Delivery Format

The program offers coursework on campus, on-line, and at attendance centers around the state.

### Requirements for Sociology Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- SOC 284 - Investigating the Social World Credits: 3
- SOC 307 - Research Methods I (COM) Credits: 3
- SOC 308 - Research Methods II (COM) Credits: 3
- SOC 403 - Sociological Theory (COM) Credits: 3
- SOC 489 - Capstone (COM) Credits: 3 (Capstone)
- SOC/ANTH Electives: 18

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 33 Credit Hours |
| Electives** | 54 Credit Hours |

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 33 Credit Hours |
| Electives** | 50 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

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- Sociology (B.A.)
- Sociology (B.S.)

## Sociology (B.S.) - Teaching Specialization

### Program Coordinator/Contact

Elizabeth Koob, Professional Advisor
School of Psychology, Sociology and Rural Studies
Hansen Hall 102
605-688-6296

### Program Information

Sociology majors often make strong teachers because of their understanding of how people behave and interact. Students in this specialization gain mastery of sociology by studying and applying contemporary sociological theory and research to social issues such as globalization, social inequality, diversity, family, religion, or population. Additionally, students complete pedagogy courses to prepare for employment in middle school or senior high level teaching.

### Student Learning Outcomes

In the Sociology major, students will:

- Apply sociological theories to understand social phenomena.
- Critically evaluate explanations of human behavior and social phenomena.
- Apply scientific principles to understand the social world.
- Evaluate the quality of social scientific methods and data.
- Rigorously analyze social scientific data.
- Use sociological knowledge to inform policy debates and promote public understanding.

### Academic Requirements

- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's Secondary preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

The program offers coursework on campus, online, and at attendance centers around the state.

### Requirements for Sociology Major - Teaching Specialization: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Science specifications.

### Major Requirements

- SOC 284 - Investigating the Social World Credits: 3
- SOC 307 - Research Methods I (COM) Credits: 3
- SOC 308 - Research Methods II (COM) Credits: 3
- SOC 403 - Sociological Theory (COM) Credits: 3
- SOC 489 - Capstone (COM) Credits: 3 (Capstone)
- SOC/ANTH Electives: 18

### Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3 (College Requirement)
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- SEED 415 - 7-12 Social Science Methods (COM) Credits: 3 (Teaching Content Methods Requirement)
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

| Bachelor of Science | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 33 Credit Hours |
| Teaching Specialization Requirements | 34 Credit Hours |
| Electives** | 16 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

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- Sociology (B.S.) - Teaching Specialization

## Spanish (B.A.)

### Program Coordinator/Contact

Maria Spitz, Associate Professor of Spanish
School of American and Global Studies
Wagner Hall 103, Box 2275
605-688-4275

### Program Information

Learning one or more foreign languages is about much more than just grammar and structure of languages. To learn a language is to engage with the heritage of entire civilizations, as well as with the contemporary norms that structure societies' politics, religions, identities, and workplace, in order to communicate more effectively. Furthermore, language study provides models for dealing with cultural differences that are applicable in any part of the world, including the U.S., taken together, courses offered in Spanish at SDSU prepare students with the skills to function and communicate effectively in any environment.

### Student Learning Outcomes

Upon the completion of the Spanish major, students should be able to:

- Speak, read and write Spanish at the Intermediate-High or Advanced level, developing solid competence in the language needed for everyday life and advanced narrative skills in the past, present, and future.
- Demonstrate understanding of and growth in the skills required for intercultural communication and competence and life-long learning.
- Identify the cultural perspectives of the Spanish-speaking world's civilizations and their cultural products, such as literatures, arts, institutions, pop cultures, etc. and compare the cultural frames that determine everyday life in French-speaking cultures and the U.S.
- Adapt behavior to a variety of cultural contexts through critical analysis of cultural frames.
- Articulate the value of their language and cultural studies and apply this knowledge in future employment.

### Academic Requirements

### Major Coursework

A minimum grade of "C" is required for a Spanish course to count towards the major or minor.

### Placement

Students who have a background in modern language study before entering the University should take the Placement Examination to determine the appropriate course in which to enroll. Credit may be obtained for courses exempted upon completion of one course in the department, with a grade of "C" or better, and the payment of the established fee to the Testing Center. Please refer to Modern Language Credit under Policies & General Academic Information in the catalog for more detailed information.

### Oral Proficiency Interview

An official Oral Proficiency Interview (OPI) certified by the American Council on the Teaching of Foreign Languages (ACTFL) is required of all students majoring in Spanish. A minimum ranking of Intermediate Mid is required for all Spanish Majors and Intermediate High for majors with a teaching specialization.

### Course Delivery Format

Most courses in the Spanish major are offered face-to-face on campus. Some upper-division courses are offered online, normally during the summer term.

### Requirements for Spanish Major: 120 Credits

*Bachelor of Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts specifications.

### Major Requirements

- GLST 489 - Capstone Intercultural Competencies Credits: 3 (Capstone)
- SPAN 201 - Intermediate Spanish I (COM) [SGR #4] Credits: 3
- SPAN 202 - Intermediate Spanish II (COM) [SGR #4] Credits: 3
- SPAN 310 - Conversation and Culture for Proficiency Credits: 3
- SPAN 330 - Reading and Writing for Communication (COM) Credits: 3

### Select from the following

- 21 credits total are required from the following 3 elective categories; distribution will vary for the Humanities Emphasis or the Professional Emphasis.
- 15 of the 21 elective credits must be at the 300 and 400 level.
- In total, 24 of the 36 credits required for the Spanish major must be at the 300 and 400 level.

### Advanced Language/Linguistics Electives

Select from the following courses. Credits: 3-6*
*Minimum of 1 course is required for the Humanities Emphasis;
*Minimum of 2 courses are required for the Professional Emphasis

- SPAN 308 - Spanish for the Health Professions Credits: 3
- SPAN 340 - Phonetics (COM) Credits: 3
- SPAN 350 - Spanish for Business Communication (COM) Credits: 3
- SPAN 392 - Topics (COM) Credits: 1-6 (3 credits required) (if Advanced Language/Linguistics)
- SPAN 443 - Hispanic Linguistics (COM) Credits: 3
- SPAN 444 - Introduction to Translation Credits: 3
- SPAN 492 - Topics (COM) Credits: 1-3 (3 credits required) (if Advanced Language/Linguistics)

### Literature and Culture Electives

Select from the following courses. Credits: 6-9*
*Minimum of 3 courses are required for the Humanities Emphasis;
*Minimum of 2 courses are required for the Professional Emphasis

- SPAN 353 - Introduction to Spanish Literature I (COM) Credits: 3
- SPAN 355 - Introduction to Latin-American Literature I (COM) Credits: 3
- SPAN 392 - Topics (COM) Credits: 1-6 (3 credits required) (if Literature or Culture)
- SPAN 433 - Spanish Civilization and Culture (COM) Credits: 3
- SPAN 435 - Latin American Civilization and Culture Credits: 3
- SPAN 437 - The Moving Image in the Spanish-Speaking World Credits: 3
- SPAN 472 - Early Modern Spain Credits: 3
- SPAN 473 - Colonial Spanish America Credits: 3
- SPAN 476 - 19th and 20th Century Spain Credits: 3
- SPAN 477 - 19th and 20th Century Latin America Credits: 3
- SPAN 478 - Spanish Transatlantic Studies Credits: 3
- SPAN 492 - Topics (COM) Credits: 1-3 (3 credits required) (if Literature or Culture)

### Applied and Experiential Learning Electives

Select from the following courses. Credits: 0-9*
*No courses from this category are required; however students can draw from this category OR the previous categories (Advanced Language/Linguistics & Literature and Culture) in order to complete their remaining elective credits for a total of 21.

- SPAN 250 - Intermediate Conversation Credits: 3
- SPAN 296 - Field Experience (COM) Credits: 1-6
  or SPAN 396 - Field Experience (COM) Credits: 1-6
  or SPAN 496 - Field Experience (COM) Credits: 1-6

- SPAN 386 - Spanish in the Community Credits: 1-4 (3 credits required)
- SPAN 392 - Topics (COM) Credits: 1-6 (if Advanced Conversation)
- SPAN 415 - Extensive Reading in Spanish Credits: 1
- SPAN 491-591 - Independent Study (COM) Credits: 1-6
- SPAN 492 - Topics (COM) Credits: 1-3 (if Advanced Conversation)

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

### Bachelor of Arts

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 36 Credit Hours |
| Electives** | 51 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Spanish (B.A.)

## Spanish (B.A.) - Teaching Specialization

### Program Coordinator/Contact

Maria Spitz, Associate Professor of Spanish
School of American and Global Studies
Wagner Hall 103, Box 2275
605-688-4275

### Program Information

The Spanish major - Teaching specialization at SDSU consists of language, culture, literature and professional courses to prepare students for teaching careers in primary, middle or secondary schools or for further graduate study.

### Student Learning Outcomes

Upon the completion of the Spanish major, students should be able to:

- Speak, read and write Spanish at the Intermediate-High or Advanced level, developing solid competence in the language needed for everyday life and advanced narrative skills in the past, present, and future.
- Demonstrate understanding of and growth in the skills required for intercultural communication and competence and life-long learning.
- Identify the cultural perspectives of the Spanish-speaking world's civilizations and their cultural products, such as literatures, arts, institutions, pop cultures, etc. and compare the cultural frames that determine everyday life in French-speaking cultures and the U.S.
- Adapt behavior to a variety of cultural contexts through critical analysis of cultural frames.
- Articulate the value of their language and cultural studies and apply this knowledge in future employment.

### Academic Requirements

### Major Coursework

- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Placement

- Students who have a background in modern language study before entering the University should take the Placement Examination to determine the appropriate course in which to enroll. Credit may be obtained for courses exempted upon completion of one course in the department, with a grade of "C" or better, and the payment of the established fee to the Testing Center. Please refer to Modern Language Credit under Policies & General Academic Information in the catalog for more detailed information.

### Oral Proficiency Interview

- An official Oral Proficiency Interview (OPI) certified by the American Council on the Teaching of Foreign Languages (ACTFL) is required of all students majoring in Spanish. A minimum ranking of Intermediate Mid is required for all Spanish Majors and Intermediate High for majors with a teaching specialization.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's K-12 preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Most courses in the Spanish major are offered face-to-face on campus. Some upper-division courses are offered online, normally during the summer term.

### Requirements for Spanish Major - Teaching Specialization: 120 Credits

*Bachelor of Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts specifications.

### Major Requirements

- SPAN 201 - Intermediate Spanish I (COM) [SGR #4] Credits: 3
- SPAN 202 - Intermediate Spanish II (COM) [SGR #4] Credits: 3
- SPAN 310 - Conversation and Culture for Proficiency Credits: 3
- SPAN 330 - Reading and Writing for Communication (COM) Credits: 3

### Select from the following

- 24 credits total are required from the following 3 elective categories; distribution will vary for the Humanities Emphasis, the Professional Emphasis, and the Teaching Specialization.
- 15 of the 21 elective credits must be at the 300 and 400 level.

- In total, 24 of the 36 credits required for the Spanish major must be at the 300 and 400 level.

### Advanced Language/Linguistics Electives

Select from the following courses. Credits: 3-6*
*Minimum of 1 course is required for the Humanities Emphasis and the Teaching Specialization;
*Minimum of 2 courses are required for the Professional Emphasis

- SPAN 308 - Spanish for the Health Professions Credits: 3
- SPAN 340 - Phonetics (COM) Credits: 3
- SPAN 350 - Spanish for Business Communication (COM) Credits: 3
- SPAN 392 - Topics (COM) Credits: 1-6 (3 credits required) (if Advanced Language/Linguistics)
- SPAN 443 - Hispanic Linguistics (COM) Credits: 3
- SPAN 444 - Introduction to Translation Credits: 3
- SPAN 492 - Topics (COM) Credits: 1-3 (3 credits required) (if Advanced Language/Linguistics)

### Literature and Culture Electives

Select from the following courses. Credits: 6-12*
*Minimum of 4 courses are required for the Teaching Specialization;
*Minimum of 3 courses are required for the Humanities Emphasis;
*Minimum of 2 courses are required for the Professional Emphasis

- SPAN 353 - Introduction to Spanish Literature I (COM) Credits: 3
- SPAN 355 - Introduction to Latin-American Literature I (COM) Credits: 3
- SPAN 392 - Topics (COM) Credits: 1-6 (3 credits required) (if Literature or Culture)
- SPAN 433 - Spanish Civilization and Culture (COM) Credits: 3
- SPAN 435 - Latin American Civilization and Culture Credits: 3
- SPAN 437 - The Moving Image in the Spanish-Speaking World Credits: 3
- SPAN 472 - Early Modern Spain Credits: 3
- SPAN 473 - Colonial Spanish America Credits: 3
- SPAN 476 - 19th and 20th Century Spain Credits: 3
- SPAN 477 - 19th and 20th Century Latin America Credits: 3
- SPAN 478 - Spanish Transatlantic Studies Credits: 3
- SPAN 492 - Topics (COM) Credits: 1-3 (3 credits required) (if Literature or Culture)

### Applied and Experiential Learning Electives

Select from the following courses. Credits: 0-9*
*No courses from this category are required; however students can draw from this category OR the previous categories (Advanced Language/Linguistics & Literature and Culture) in order to complete their remaining elective credits for a total of 24.

- SPAN 250 - Intermediate Conversation Credits: 3
- SPAN 296 - Field Experience (COM) Credits: 1-6
  or SPAN 396 - Field Experience (COM) Credits: 1-6
  or SPAN 496 - Field Experience (COM) Credits: 1-6
- SPAN 386 - Spanish in the Community Credits: 1-4 (3 credits required)
- SPAN 392 - Topics (COM) Credits: 1-6 (if Advanced Conversation)
- SPAN 415 - Extensive Reading in Spanish Credits: 1
- SPAN 491-591 - Independent Study (COM) Credits: 1-6
- SPAN 492 - Topics (COM) Credits: 1-3 (if Advanced Conversation)

### Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3 (College Requirement)
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 352L - Teaching and Learning II Lab Credits: 2
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- MFL 420 - K-12 Foreign Language Methods (COM) Credits: 3 (Teaching Content Methods Requirement) (Capstone)
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 36 Credit Hours |
| Teaching Specialization Requirements | 34 Credit Hours |
| Electives** | 17 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Spanish (B.A.) - Teaching Specialization

## Sport & Recreation Management (B.S.)

### Program Coordinator/Contact

Bryan Romsa, Assistant Professor
School of Health and Consumer Sciences
Wagner Hall 411
605-688-6389

Stella Liu, Assistant Professor
School of Health and Consumer Sciences
Wagner Hall 407
605-688-6163

### Program Information

Sport and Recreation Management professionals are needed to meet recreation demands resulting from expanding populations, increased leisure time, greater mobility and changing social attitudes. The curriculum in Sport and Recreation Management is designed to prepare students for professional positions in sport, recreation, parks and outdoor recreation programming and administration.

Students interested in sport and recreation management can find a variety of career opportunities including community recreation, federal, state and municipal governmental agencies, private outdoor and tourism enterprises as well as intercollegiate athletic departments and minor and major league sport teams. Students interested in municipal and county recreation agencies, YMCA/YWCAs, Boys and Girls Clubs, college/professional sports, fitness/facility management organizations, and therapeutic recreation in clinical as well as community settings, can focus their interests using additional recreation, marketing, accounting, economics, social media, management, entrepreneur, and leadership elective courses. This major is based on interdisciplinary approach providing a broad, comprehensive background for leadership and administrative roles in sport and recreation industries. It also provides students a foundation for advanced academic pursuits of a graduate degree in sport or recreation administration or related degree programs.

### Student Learning Outcomes

Upon completion of the Sport and Recreation Management major students will:

- Evaluate the professional, social, and ethical responsibilities, including an appreciation of the impact of diversity on societies.
- Apply entry-level knowledge about operations and strategic management/administration in sport and recreation related professions.
- Demonstrate the combination of knowledge, skills, and values that make a difference in the field of sport and recreation for promoting quality of life through community engagement and hands-on learning.
- Develop the ability to use systematic and structured ways of critical thinking to solve problems related to different facets of professional practice.

- Apply oral and written communication skills in varied situations, including projects, activities, and presentations, for interacting with others team members and contributing quality and quantity effort into team tasks.

### Academic Requirements

A minimum GPA of 2.0 is also required in all courses taught in the major. All students transferring into the program must have a 2.0 GPA to be accepted. Transfer students with less than a 2.0 GPA may petition for approval. If accepted, the transfer student will enter on probation for one semester. A student in the major must have a 2.4 cumulative GPA to be recommended for the required internship experience. A minimum final grade of "C" is required in all courses taught in the major.

### Accreditation, Certification, and Licensure

Upon successful completion of the degree, students who are in the field working under a certified professional may apply to become a Certified Park and Recreation Professional.

### Course Delivery Format

The program offers coursework through classroom (face to face, hybrid and/or online), service learning and lab experiences (indoor and outdoor), sport, recreation and park site visits, practicum and/or field experience/s.

### Requirements Sport and Recreation Management Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3 or POLS 210 - State and Local Government (COM) [SGR #3] Credits: 3 and ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Education and Human Sciences Requirements

- EHS 119 - EHS Seminar Credits: 2
- EHS 319 - Life, Love, and Money Credits: 2

### Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
  or CMST 201 - Interpersonal Communication (COM) [SGR #3] Credits: 3
  or CMST 434 - Small Group Communication (COM) Credits: 3
- ENGL 379 - Technical Communication (COM) Credits: 3
- FIN 310 - Business Finance (COM) Credits: 3
- HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- HLTH 220 - Social Determinants of Health Credits: 3
- HMGT 355 - Events and Facilities Administration Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT 325 - Management Information Systems (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- RECR 140 - Introduction to Sport, Recreation and Park Management Credits: 3
- RECR 260 - Fundamentals of Sport and Recreation Leadership Credits: 3
- RECR 302 - Commercial Recreation and Tourism Credits: 3
- RECR 360 - Sport, Recreation and Park Programming Credits: 3
- RECR 402-502 - Outdoor Recreation Resources Management Credits: 3
- RECR 410 - Current Issues in Recreation and Sport Credits: 3
- RECR 411 - Sports Marketing (COM) Credits: 3
- RECR 415-515 - Sport and Recreation Facility Management Credits: 3
- RECR 440 - Sport and Recreation Administration Credits: 3
- RECR 494 - Internship (COM) Credits: 1-12 (3 credits required)

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Education and Human Sciences Requirements | 4 Credit Hours |
| Major Requirements | 66 Credit Hours |
| Electives** | 20 Credit Hours |

**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Sport and Recreation Management (B.S.)

## Studio Art (B.F.A.) - Art Education Specialization

### Program Coordinator/Contact

Diana Behl, Studio Art Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

The Art Education specialization is part of the Studio Art Program and prepares majors for careers as art educators in elementary and secondary schools (K-12). Art Education comprises courses from the Studio Art Program and the Secondary Teacher Education Program. The curriculum prepares students for the state educator certification process which includes the successful completion of a state-designated pedagogy test. Students pursue a Bachelor of Fine Arts (BFA) degree that provides instruction in all the studio art areas focusing on technical and conceptual development along with the coursework in teaching and learning.

### Student Learning Outcomes

The courses in the Art Education specialization are designed to provide students with fundamental experiences necessary in visual knowledge, decision-making and the mechanisms of creative and expressive abilities. The program offers candidates interested in teaching art in schools (K-12) a strong and diverse program in art education. Upon completion of our curriculum, the student is prepared for certification as an art teacher to teach levels from kindergarten through high school. The art education curriculum, in accord with the College of Education and Human Sciences Undergraduate Teacher Education Program at South Dakota State University, provides candidates with the skills and experience necessary to develop effective teachers.

Upon completion of the Art Education specialization, students will be able to:

- Apply the basic principles of visual organization, in two and three dimensions, to the creation and the analysis of works of art. This includes the application of fundamental drawing skills, design concepts, color theory, and studio specific applications.
- Generate a body of original works of art that exhibits a coherent set of artistic/intellectual goals.
- Analyze and critically evaluate works of art and design from various cultures and historical periods as well as the ability to apply art historical context to their own work.
- Articulate, both orally and written, a critical discourse on their artwork and processes, the artwork of others, and art history through the appropriate application of art and design language and concepts.
- Demonstrate the skills required by professional artists in the communication, documentation, and exhibition of their artwork and experience.
- Understand the principles of children's artistic development, and to use that knowledge to design active learning opportunities that are appropriately adopted for varied developmental levels and diverse approaches to teaching and learning.
- Integrate pedagogical studies with knowledge of specific disciplines to create meaningful learning experiences.

- Develop assessment strategies to evaluate student progress, and to utilize the results to determine whether curricula programs are addressing student needs and facilitating student achievement.

### Academic Requirements

- Studio Art students must maintain at least a major GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of a "C" or better is required in all ART, ARTE, ARTH, GDES, DSGN, LA, ARCH, and ID courses.
- A grade of "C" or better is required in CMST 101, ENGL 101, PSYC 101, and MATH 103 or higher (if these courses are in your plan of study), and all courses for the major (classes with department/program prefix).
- An overall GPA of 2.5 is required to enroll in any education courses.

### Accreditation, Certification, and Licensure

### Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

### Certification and Licensure

- Completion of an approved bachelor's K-12 preparation program.
- Completion of an approved Indian Studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Completion of a Suicide Awareness and Prevention training, available free online through the South Dakota Department of Education.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Studio Art Major - Art Education Specialization: 128 Credits

*Bachelor of Fine Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: ARTH 211 - History of World Art I (COM) [SGR #4] Credits: 3 [AH] and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts and Sciences Requirements

### Bachelor of Fine Arts Requirements: 3

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Fine Arts specifications.

### School of Design Requirements

- DSGN 110 - Creative Thinking Credits: 3 [S]
- DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3 [S]
- DSGN 452 - Design Capstone Credits: 2 [S]

### School of Design Electives

Select 4 credits from the list below. Students are required to complete four credits of elective shops, studios, or history courses in another School of Design discipline. Courses may not include ART, ARTH, or GDES prefix. Contact the School of Design advisor for approval of additional courses. Credits: 4 [S]

- ARCH 241 - Construction History [SGR #4] Credits: 3
- ARCH 442-542 - History of Ideas Credits: 3
- ID 112 - Drafting and Visualization Credits: 2
- ID 180 - Introduction to Interior Design Credits: 2
- ID 209 - Human Factors and Behavior Credits: 3
- ID 215 - Interior Design Materials Credits: 3
- ID 216 - Light and Color Credits: 3
- ID 341 - History of Interior Design I Credits: 3
- ID 342 - History of Interior Design II Credits: 3
- LA 101 - Ecology and the Built Landscape Credits: 3
- LA 132 - Seeing and Drawing the Land Credits: 3
- LA 231 - Digital Drafting and Mapping Credits: 2
- LA 232 - Digital Representation Credits: 2
- LA 242 - People and the Environment Credits: 3
- LA 251 - Site Analysis Credits: 4
- LA 252 - Site Planning Credits: 4

### Major Requirement

- ART 111 - Drawing I (COM) [SGR #4] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4] Credits: 3
- ART 201 - First Review Credits: 1
- ART 231 - Painting I (COM) Credits: 3
- ART 241 - Sculpture I (COM) Credits: 3
- ART 251 - Ceramics I (COM) Credits: 3
- ART 281 - Printmaking I (COM) Credits: 3
- ART 300 Level Studio Electives Credits: 6
- ART 301 - Second Review Credits: 1
- ART 400 Level Studio Electives Credits: 6
- ART 401 - Thesis Exhibition Credits: 1 (Capstone)
- ART 482 - Travel Studies Credits: 1-5 (1 credit required)

### Teacher Education Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3 (College Requirement)
- ARTE 414 - K-12 Art Methods (COM) Credits: 2-3 (3 credits required) (Teaching Content Methods Requirement)
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- EDFN 352 - Teaching and Learning II Credits: 3
- EDFN 453 - Teaching and Learning III Credits: 3
- EDFN 453L - Teaching and Learning III Lab Credits: 4
- EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11
- SEED 450 - Reading and Content Literacy (COM) Credits: 2

### Supporting Coursework

- ARTH 212 - History of World Art II (COM) [SGR #4] Credits: 3 [AH]
- ARTH 320 - Modern Art and Architecture Survey Credits: 3 [AH]
- ARTH 490 - Seminar (COM) Credits: 1-3 (3 credits required) (Contemporary Art History) [AH]
- GDES 101 - Computer Graphics Credits: 3 [S]

### Total Required Credits: 128

### Notes

- Students must also receive a "C" grade or better in CMST 101, ENGL 101, and MATH 103 or higher.
- There are GPA requirements for entry into and continuation within the teacher education program. For additional information please consult the Secondary Education Handbook.

[AH] Art History B.F.A. Coursework
[S] Supportive B.F.A. Studies

### Summary of Program Requirements

**Bachelor of Fine Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements | 3 Credit Hours |
| School of Design Requirements* | 12 Credit Hours |
| Major Requirements | 39 Credit Hours |
| Teacher Education Requirements | 29 Credit Hours |
| Supporting Coursework | 15 Credit Hours |
| Electives** | 0 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Studio Art (B.F.A.) - Art Education Specialization

## Studio Art (B.F.A.) - Ceramics Specialization

### Program Coordinator/Contact

Diana Behl, Studio Art Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

A degree in Studio Art prepares majors for careers as fine artists, graduate study in fine arts, and entry-level positions in art and graphic design. The degree focuses on the breadth of general studies combined with visual arts studies where majors receive certificates in one or more of the following areas: Animation, Art History, Ceramics, Painting, Printmaking, Sculpture. A 30-hour visual arts core supports the degree and creates a foundation of success in art related fields.

### Student Learning Outcomes

Upon completion of the Studio Art program, students will be able to:

- Apply the basic principles of visual organization, in two and three dimensions, to the creation and the analysis of works of art. This includes the application of fundamental drawing skills, design concepts, color theory, and studio specific applications.
- Generate a body of original works of art in their chosen area of specialization that exhibits a coherent set of artistic/intellectual goals. This includes the application of the relevant technologies and media associated with their area of specialization as well as other studio disciplines.
- Analyze and critically evaluate works of art and design from various cultures and historical periods as well as the ability to apply art historical context to their own work.
- Articulate, both orally and written, a critical discourse on their artwork and processes, the artwork of others, and art history through the appropriate application of art and design language and concepts.
- Demonstrate the skills required by professional artists in the communication, documentation, and exhibition of their artwork and experience.

### Academic Requirements

Studio Art students must maintain at least a major GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of a "C" or better is required in all ART, ARTE, ARTH, GDES, DSGN, LA, ARCH, and ID courses.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Studio Art Major - Ceramics Specialization: 120 Credits

*Bachelor of Fine Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: ARTH 211 - History of World Art I (COM) [SGR #4] Credits: 3 [AH] and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

**Bachelor of Fine Arts Requirements: 3**

- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Fine Arts specifications.

### School of Design Requirements

- DSGN 110 - Creative Thinking Credits: 3 [S]
- DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3 [S]
- DSGN 452 - Design Capstone Credits: 2 [S]

### School of Design Electives

Select 6 credits from the list below. Students are required to complete six credits of elective shops, studios, or history courses in another School of Design discipline. Courses may not include ART, ARTH, or GDES prefix. Contact the School of Design advisor for approval of additional courses. Credits: 6 [S]

- ARCH 241 - Construction History [SGR #4] Credits: 3
- ARCH 442-542 - History of Ideas Credits: 3
- ID 112 - Drafting and Visualization Credits: 2
- ID 180 - Introduction to Interior Design Credits: 2
- ID 209 - Human Factors and Behavior Credits: 3
- ID 215 - Interior Design Materials Credits: 3
- ID 216 - Light and Color Credits: 3
- ID 341 - History of Interior Design I Credits: 3
- ID 342 - History of Interior Design II Credits: 3
- LA 101 - Ecology and the Built Landscape Credits: 3
- LA 132 - Seeing and Drawing the Land Credits: 3
- LA 231 - Digital Drafting and Mapping Credits: 2
- LA 232 - Digital Representation Credits: 2
- LA 242 - People and the Environment Credits: 3
- LA 251 - Site Analysis Credits: 4
- LA 252 - Site Planning Credits: 4

### Major Requirements

- ART 111 - Drawing I (COM) [SGR #4] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4] Credits: 3
- ART 201 - First Review Credits: 1
- ART 211 - Drawing III-Figurative (COM) Credits: 3
- ART 212 - Drawing IV: Mixed Media (COM) Credits: 3
- ART 231 - Painting I (COM) Credits: 3
- ART 241 - Sculpture I (COM) Credits: 3
- ART 251 - Ceramics I (COM) Credits: 3
- ART 281 - Printmaking I (COM) Credits: 3
- ART 301 - Second Review Credits: 1
- ART 351 - Ceramics II (COM) Credits: 3
- ART 352 - Ceramics III Credits: 3
- ART 300 Level Studio Electives Credits: 6
- ART 401 - Thesis Exhibition Credits: 1 (Capstone)
- ART 451 - Ceramics IV (COM) Credits: 3

- ART 453 - Ceramics V Credits: 3
- ART 482 - Travel Studies Credits: 1-5 (1 credit required)
- ART, ARTH, GDES, or AHSS 110 - Introduction to Museum Studies Elective Credits: 3
- ARTH 490 - Seminar (COM) Credits: 1-3 (3 credits required)

### Supporting Coursework

- ART 192 - Topics (COM) Credits: 3 (Digital Photography) [S] or MCOM 265-265L - Basic Photography and Lab (COM) Credits: 3 [S]
- ARTH 212 - History of World Art II (COM) [SGR #4] Credits: 3 [AH]
- ARTH 320 - Modern Art and Architecture Survey Credits: 3 [AH]
- GDES 101 - Computer Graphics Credits: 3 [S]

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Notes

[AH] Art History B.F.A. Coursework
[S] Supportive B.F.A. Studies

### Summary of Program Requirements

**Bachelor of Fine Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements | 3 Credit Hours |
| School of Design Requirements* | 14 Credit Hours |
| Major Requirements | 61 Credit Hours |
| Supporting Coursework | 12 Credit Hours |
| Electives** | 0 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Studio Art (B.F.A.) - Ceramics Specialization

## Studio Art (B.F.A.) - Painting Specialization

### Program Coordinator/Contact

Diana Behl, Studio Art Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

A degree in Studio Art prepares majors for careers as fine artists, graduate study in fine arts, and entry-level positions in art and graphic design. The degree focuses on the breadth of general studies combined with visual arts studies where majors receive certificates in one or more of the following areas: Animation, Art History, Ceramics, Painting, Printmaking, Sculpture. A 30-hour visual arts core supports the degree and creates a foundation of success in art related fields.

### Student Learning Outcomes

Upon completion of the Studio Art program, students will be able to:

- Apply the basic principles of visual organization, in two and three dimensions, to the creation and the analysis of works of art. This includes the application of fundamental drawing skills, design concepts, color theory, and studio specific applications.
- Generate a body of original works of art in their chosen area of specialization that exhibits a coherent set of artistic/intellectual goals. This includes the application of the relevant technologies and media associated with their area of specialization as well as other studio disciplines.
- Analyze and critically evaluate works of art and design from various cultures and historical periods as well as the ability to apply art historical context to their own work.
- Articulate, both orally and written, a critical discourse on their artwork and processes, the artwork of others, and art history through the appropriate application of art and design language and concepts.
- Demonstrate the skills required by professional artists in the communication, documentation, and exhibition of their artwork and experience.

### Academic Requirements

Studio Art students must maintain at least a major GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of a "C" or better is required in all ART, ARTE, ARTH, GDES, DSGN, LA, ARCH, and ID courses.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Studio Art Major - Painting Specialization: 120 Credits

*Bachelor of Fine Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: ARTH 211 - History of World Art I (COM) [SGR #4] Credits: 3 [AH] and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Fine Arts Requirements: 3

- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Fine Arts specifications.

### School of Design Requirements

- DSGN 110 - Creative Thinking Credits: 3 [S]
- DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3 [S]
- DSGN 452 - Design Capstone Credits: 2 [S]

### School of Design Electives

Select 6 credits from the list below. Students are required to complete six credits of elective shops, studios, or history courses in another School of Design discipline. Courses may not include ART, ARTH, or GDES prefix. Contact the School of Design advisor for approval of additional courses. Credits: 6 [S]

- ARCH 241 - Construction History [SGR #4] Credits: 3
- ARCH 442-542 - History of Ideas Credits: 3
- ID 112 - Drafting and Visualization Credits: 2
- ID 180 - Introduction to Interior Design Credits: 2
- ID 209 - Human Factors and Behavior Credits: 3
- ID 215 - Interior Design Materials Credits: 3
- ID 216 - Light and Color Credits: 3
- ID 341 - History of Interior Design I Credits: 3
- ID 342 - History of Interior Design II Credits: 3
- LA 101 - Ecology and the Built Landscape Credits: 3
- LA 132 - Seeing and Drawing the Land Credits: 3
- LA 231 - Digital Drafting and Mapping Credits: 2
- LA 232 - Digital Representation Credits: 2
- LA 242 - People and the Environment Credits: 3
- LA 251 - Site Analysis Credits: 4
- LA 252 - Site Planning Credits: 4

### Major Requirements

- ART 111 - Drawing I (COM) [SGR #4] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3

- ART 123 - Three Dimensional Design (COM) [SGR #4] Credits: 3
- ART 201 - First Review Credits: 1
- ART 211 - Drawing III-Figurative (COM) Credits: 3
- ART 212 - Drawing IV: Mixed Media (COM) Credits: 3
- ART 231 - Painting I (COM) Credits: 3
- ART 241 - Sculpture I (COM) Credits: 3
- ART 251 - Ceramics I (COM) Credits: 3
- ART 281 - Printmaking I (COM) Credits: 3
- ART 301 - Second Review Credits: 1
- ART 331 - Painting II (COM) Credits: 3
- ART 300 Level Studio Electives Credits: 6
- ART 401 - Thesis Exhibition Credits: 1 (Capstone)
- ART 431 - Painting III (COM) Credits: 3
- ART 432 - Painting IV (COM) Credits: 3
- ART 433 - Painting V Credits: 3
- ART 482 - Travel Studies Credits: 1-5 (1 credit required)
- ART, ARTH, GDES, or AHSS 110 - Introduction to Museum Studies Elective Credits: 3
- ARTH 490 - Seminar (COM) Credits: 1-3 (3 credits required)

### Supporting Coursework

- ART 192 - Topics (COM) Credits: 3 (Digital Photography) [S] or MCOM 265-265L - Basic Photography and Lab (COM) Credits: 3 [S]
- ARTH 212 - History of World Art II (COM) [SGR #4] Credits: 3 [AH]
- ARTH 320 - Modern Art and Architecture Survey Credits: 3 [AH]
- GDES 101 - Computer Graphics Credits: 3 [S]

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Notes

[AH] Art History B.F.A. Coursework
[S] Supportive B.F.A. Studies

### Summary of Program Requirements

**Bachelor of Fine Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements | 3 Credit Hours |
| School of Design Requirements* | 14 Credit Hours |
| Major Requirements | 61 Credit Hours |
| Supporting Coursework | 12 Credit Hours |
| Electives** | 0 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Studio Art (B.F.A.) - Painting Specialization

## Studio Art (B.F.A.) - Printmaking Specialization

### Program Coordinator/Contact

Diana Behl, Studio Art Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

A degree in Studio Art prepares majors for careers as fine artists, graduate study in fine arts, and entry-level positions in art and graphic design. The degree focuses on the breadth of general studies combined with visual arts studies where majors receive certificates in one or more of the following areas: Animation, Art History, Ceramics, Painting, Printmaking, Sculpture. A 30-hour visual arts core supports the degree and creates a foundation of success in art related fields.

### Student Learning Outcomes

Upon completion of the Studio Art program, students will be able to:

- Apply the basic principles of visual organization, in two and three dimensions, to the creation and the analysis of works of art. This includes the application of fundamental drawing skills, design concepts, color theory, and studio specific applications.
- Generate a body of original works of art in their chosen area of specialization that exhibits a coherent set of artistic/intellectual goals. This includes the application of the relevant technologies and media associated with their area of specialization as well as other studio disciplines.
- Analyze and critically evaluate works of art and design from various cultures and historical periods as well as the ability to apply art historical context to their own work.
- Articulate, both orally and written, a critical discourse on their artwork and processes, the artwork of others, and art history through the appropriate application of art and design language and concepts.
- Demonstrate the skills required by professional artists in the communication, documentation, and exhibition of their artwork and experience.

### Academic Requirements

Studio Art students must maintain at least a major GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of a "C" or better is required in all ART, ARTE, ARTH, GDES, DSGN, LA, ARCH, and ID courses.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Studio Art Major - Printmaking Specialization: 120 Credits

*Bachelor of Fine Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: ARTH 211 - History of World Art I (COM) [SGR #4] Credits: 3 [AH] and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Fine Arts Requirements: 3

- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Fine Arts specifications.

### School of Design Requirements

- DSGN 110 - Creative Thinking Credits: 3 [S]
- DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3 [S]
- DSGN 452 - Design Capstone Credits: 2 [S]

### School of Design Electives

Select 6 credits from the list below. Students are required to complete six credits of elective shops, studios, or history courses in another School of Design discipline. Courses may not include ART, ARTH, or GDES prefix. Contact the School of Design advisor for approval of additional courses. Credits: 6 [S]

- ARCH 241 - Construction History [SGR #4] Credits: 3
- ARCH 442-542 - History of Ideas Credits: 3
- ID 112 - Drafting and Visualization Credits: 2
- ID 180 - Introduction to Interior Design Credits: 2
- ID 209 - Human Factors and Behavior Credits: 3
- ID 215 - Interior Design Materials Credits: 3

- ID 216 - Light and Color Credits: 3
- ID 341 - History of Interior Design I Credits: 3
- ID 342 - History of Interior Design II Credits: 3
- LA 101 - Ecology and the Built Landscape Credits: 3
- LA 132 - Seeing and Drawing the Land Credits: 3
- LA 231 - Digital Drafting and Mapping Credits: 2
- LA 232 - Digital Representation Credits: 2
- LA 242 - People and the Environment Credits: 3
- LA 251 - Site Analysis Credits: 4
- LA 252 - Site Planning Credits: 4

### Major Requirements

- ART 111 - Drawing I (COM) [SGR #4] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4] Credits: 3
- ART 201 - First Review Credits: 1
- ART 211 - Drawing III-Figurative (COM) Credits: 3
- ART 212 - Drawing IV: Mixed Media (COM) Credits: 3
- ART 231 - Painting I (COM) Credits: 3
- ART 241 - Sculpture I (COM) Credits: 3
- ART 251 - Ceramics I (COM) Credits: 3
- ART 281 - Printmaking I (COM) Credits: 3
- ART 301 - Second Review Credits: 1
- ART 381 - Printmaking II (COM) Credits: 3
- ART 382 - Printmaking III Credits: 3
- ART 300 Level Studio Electives Credits: 6
- ART 401 - Thesis Exhibition Credits: 1 (Capstone)
- ART 481 - Printmaking IV Credits: 3
- ART 482 - Travel Studies Credits: 1-5 (1 credit required)
- ART 483 - Printmaking V Credits: 3
- ART, ARTH, GDES, or AHSS 110 - Introduction to Museum Studies Elective Credits: 3
- ARTH 490 - Seminar (COM) Credits: 1-3 (3 credits required)

### Supporting Coursework

- ART 192 - Topics (COM) Credits: 3 (Digital Photography) [S]
  or MCOM 265-265L - Basic Photography and Lab (COM) Credits: 3 [S]
- ARTH 212 - History of World Art II (COM) [SGR #4] Credits: 3 [AH]
- ARTH 320 - Modern Art and Architecture Survey Credits: 3 [AH]
- GDES 101 - Computer Graphics Credits: 3 [S]

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Notes

[AH] Art History B.F.A. Coursework
[S] Supportive B.F.A. Studies

### Summary of Program Requirements

### Bachelor of Fine Arts

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements | 3 Credit Hours |
| School of Design Requirements* | 14 Credit Hours |
| Major Requirements | 61 Credit Hours |
| Supporting Coursework | 12 Credit Hours |
| Electives** | 0 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Studio Art (B.F.A.) - Printmaking Specialization

## Studio Art (B.F.A.) - Sculpture Specialization

### Program Coordinator/Contact

Diana Behl, Studio Art Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

A degree in Studio Art prepares majors for careers as fine artists, graduate study in fine arts, and entry-level positions in art and graphic design. The degree focuses on the breadth of general studies combined with visual arts studies where majors receive certificates in one or more of the following areas: Animation, Art History, Ceramics, Painting, Printmaking, Sculpture. A 30-hour visual arts core supports the degree and creates a foundation of success in art related fields.

### Student Learning Outcomes

Upon completion of the Studio Art program, students will be able to:

- Apply the basic principles of visual organization, in two and three dimensions, to the creation and the analysis of works of art. This includes the application of fundamental drawing skills, design concepts, color theory, and studio specific applications.
- Generate a body of original works of art in their chosen area of specialization that exhibits a coherent set of artistic/intellectual goals. This includes the application of the relevant technologies and media associated with their area of specialization as well as other studio disciplines.
- Analyze and critically evaluate works of art and design from various cultures and historical periods as well as the ability to apply art historical context to their own work.
- Articulate, both orally and written, a critical discourse on their artwork and processes, the artwork of others, and art history through the appropriate application of art and design language and concepts.
- Demonstrate the skills required by professional artists in the communication, documentation, and exhibition of their artwork and experience.

### Academic Requirements

Studio Art students must maintain at least a major GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of a "C" or better is required in all ART, ARTE, ARTH, GDES, DSGN, LA, ARCH, and ID courses.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Studio Art Major - Sculpture Specialization: 120 Credits

*Bachelor of Fine Arts*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: ARTH 211 - History of World Art I (COM) [SGR #4] Credits: 3 [AH] and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

### Bachelor of Fine Arts Requirements: 3

- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- Capstone course in the major discipline
- Upper division coursework Credits: 33

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Fine Arts specifications.

### School of Design Requirements

- DSGN 110 - Creative Thinking Credits: 3 [S]
- DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3 [S]
- DSGN 452 - Design Capstone Credits: 2 [S]

### School of Design Electives

Select 6 credits from the list below. Students are required to complete six credits of elective shops, studios, or history courses in another School of Design discipline. Courses may not include ART, ARTH, or GDES prefix. Contact the School of Design advisor for approval of additional courses. Credits: 6 [S]

- ARCH 241 - Construction History [SGR #4] Credits: 3
- ARCH 442-542 - History of Ideas Credits: 3
- ID 112 - Drafting and Visualization Credits: 2
- ID 180 - Introduction to Interior Design Credits: 2
- ID 209 - Human Factors and Behavior Credits: 3
- ID 215 - Interior Design Materials Credits: 3
- ID 216 - Light and Color Credits: 3
- ID 341 - History of Interior Design I Credits: 3
- ID 342 - History of Interior Design II Credits: 3
- LA 101 - Ecology and the Built Landscape Credits: 3
- LA 132 - Seeing and Drawing the Land Credits: 3
- LA 231 - Digital Drafting and Mapping Credits: 2
- LA 232 - Digital Representation Credits: 2
- LA 242 - People and the Environment Credits: 3
- LA 251 - Site Analysis Credits: 4
- LA 252 - Site Planning Credits: 4

### Major Requirements

- ART 111 - Drawing I (COM) [SGR #4] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4] Credits: 3
- ART 201 - First Review Credits: 1
- ART 211 - Drawing III-Figurative (COM) Credits: 3
- ART 212 - Drawing IV: Mixed Media (COM) Credits: 3
- ART 231 - Painting I (COM) Credits: 3
- ART 241 - Sculpture I (COM) Credits: 3
- ART 251 - Ceramics I (COM) Credits: 3
- ART 281 - Printmaking I (COM) Credits: 3
- ART 301 - Second Review Credits: 1
- ART 341 - Sculpture II (COM) Credits: 3
- ART 342 - Sculpture III (COM) Credits: 3
- ART 300 Level Studio Electives Credits: 6
- ART 401 - Thesis Exhibition Credits: 1 (Capstone)
- ART 441 - Sculpture IV (COM) Credits: 3
- ART 443 - Sculpture V Credits: 3
- ART 482 - Travel Studies Credits: 1-5 (1 credit required)
- ART, ARTH, GDES, or AHSS 110 - Introduction to Museum Studies Elective Credits: 3
- ARTH 490 - Seminar (COM) Credits: 1-3 (3 credits required)

### Supporting Coursework

- ART 192 - Topics (COM) Credits: 3 (Digital Photography) [S]
  or MCOM 265-265L - Basic Photography and Lab (COM) Credits: 3 [S]
- ARTH 212 - History of World Art II (COM) [SGR #4] Credits: 3 [AH]
- ARTH 320 - Modern Art and Architecture Survey Credits: 3 [AH]
- GDES 101 - Computer Graphics Credits: 3 [S]

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Notes

[AH] Art History B.F.A. Coursework
[S] Supportive B.F.A. Studies

### Summary of Program Requirements

**Bachelor of Fine Arts**

| | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements | 3 Credit Hours |
| School of Design Requirements* | 14 Credit Hours |
| Major Requirements | 61 Credit Hours |
| Supporting Coursework | 12 Credit Hours |
| Electives** | 0 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Studio Art (B.F.A.) - Sculpture Specialization

## Theatre (B.A./B.S.)

### Program Coordinator/Contact

J.D. Ackman, Program Coordinator
School of Performing Arts
Oscar Larson Performing Arts Center, Box 2830
605-688-5188

### Program Information

Students in this major are exposed and participate in all aspects of theatre, through a broad-based education. Students will gain practical experience with the newest techniques and technology of theatre. In this major, the hands-on education involves participation in State University Theatre and Prairie Repertory Theatre.

### Student Learning Outcomes

In the Theatre major, students will be able to:

- Think conceptually and critically about text, performance, and production.
- Demonstrate an understanding of playwriting and production processes, aesthetic properties of style, and the way these shape and are shaped by artistic and cultural forces.
- Be acquainted with a wide selection of theatre repertory including the principal eras, genres, and cultural sources.
- Develop and defend informed judgments about theatre.
- Demonstrate ability in areas of performance, production, or playwriting appropriate to their individual needs and interests and consistent with the goals and objectives of the program.
- Understand procedures and approaches for realizing a variety of theatrical styles.

If applicable, students will be prepared to gain entry level positions:

- In the profession in the areas of design, technology, or stage management, or gain entrance to graduate programs for additional training prior to entering the profession.
- As performers or gain acceptance to graduate programs for additional training or to enter the profession.
- In theatre management, promotions/business or gain acceptance to graduate programs for additional training or to enter the profession.

### Academic Requirements

Minimum grade of "C" required in all major courses.

Students must complete at least one activity credit each semester by participating in theatre productions.

### Course Delivery Format

A variety of methods are used in our curriculum, including student engagement and interactive learning, lecture, laboratory, small group, seminar and collaborative activities.

### Requirements for Theatre Major: 120 Credits

*Bachelor of Arts*
*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6 (Non THEA courses)
- Goal #5 Mathematics: SGR #5 Electives Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

### College of Arts, Humanities and Social Sciences Requirements

- One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.
- Capstone course in the major discipline
- Upper division coursework Credits: 33

### Bachelor of Arts Requirements: 9+

- Modern Foreign Language Including the 202-Level Credits: 6+
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

### Bachelor of Science Requirements: 13+

- Natural Sciences Credits: 10+
  - Any two lab sciences.
  - Coursework must include 2 prefixes.
  - MATH and STAT courses do not count toward the science requirement.
- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts, Humanities & Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

### Major Requirements

- DANC 131 - Movement 1 Credits: 2
- THEA 119 - First Year Seminar Credits: 2
- THEA 131 - Introduction to Acting (COM) [SGR #4] Credits: 3
- THEA 240 - Stage Costuming (COM) Credits: 3
- THEA 241-241L - Stagecraft and Lab (COM) Credits: 3
- THEA 250 - Play Analysis (COM) Credits: 3
- THEA 351 - Directing (COM) Credits: 3
- THEA 361 - Literature and History of the Theatre I (COM) Credits: 3
- THEA 364 - Literature and History of the Theatre II (COM) Credits: 3
- THEA 452 - Stage Management (COM) Credits: 3
- THEA 470 - Portfolio and Resume Building Credits: 3 (Capstone)
- THEA 480 - Summer Theatre (COM) Credits: 1-5
  or THEA 494 - Internship (COM) Credits: 3

### Select from the following

Select 4 credits from the following list. Activities required in 3 different tech/performance areas. Credits: 4

- DANC 135 - Dance Activities Credits: 1
- THEA 135 - Theatre Activities - Acting Credits: 1
- THEA 145 - Theatre Activities - Technical Credits: 1

### Select from the following

Select 4 credits from the following list. Credits: 4

- DANC 336 - Dance Activities Credits: 1
- THEA 336 - Theatre Activities - Acting Credits: 1
- THEA 346 - Theatre Activities - Technical Credits: 1

### Select from the following

Select from the following courses. Credits: 9

- Any DANC course up to 3 credits.
- THEA 100 - Introduction to Theatre (COM) [SGR #4] Credits: 3
- THEA 243 - Make-Up (COM) Credits: 3
- THEA 355 - Children's Theatre (COM) Credits: 3
- THEA 375 - Theatre Arts Management Credits: 3
- THEA 435 - History of American Musical Theater (COM) Credits: 3
- THEA 441 - Scene Design (COM) Credits: 3
- THEA 443 - Costume Design (COM) Credits: 3
- THEA 445-445L - Lighting and Lab (COM) Credits: 3
- THEA 455 - Advanced Acting (COM) Credits: 3
- THEA 492 - Topics (COM) Credits: 1-5 (3 credits required)

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

| Bachelor of Arts | |
|---|---|
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 9+ Credit Hours |
| Major Requirements | 51 Credit Hours |
| Electives** | 30 Credit Hours |
| **Bachelor of Science** | |
| System General Education Requirements | 30 Credit Hours |
| College of Arts, Humanities and Social Sciences Requirements* | 13+ Credit Hours |
| Major Requirements | 51 Credit Hours |
| Electives** | 32 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Theatre (B.A)
- Theatre (B.S.)

## Wildlife & Fisheries Sciences (B.S.)

### Program Coordinator/Contact

Bruce Eichhorst, Instructor
Department of Natural Resource Management
Edgar S. McFadden Biostress Laboratory, Room 139D
605-688-6121

### Program Information

Wildlife and Fisheries Sciences major requirements prepare undergraduate students for careers in wildlife and fisheries conservation and management. Coursework is directed at organisms, natural populations and communities, their habitats and human users. Imbedded in these courses are additional skills that further enable students to be competitive in the natural resources disciplines. These skills include communications, teamwork, leadership, ethics, statistics, technology, global competence, critical thinking, and problem solving. Most employment is with state and federal natural resource agencies. Each state has natural resource agencies that hire students with wildlife and fisheries sciences degrees and multiple federal agencies hire graduates from the program. In addition, employment opportunities exist with local and tribal governments, non-governmental organizations, and private industry. Many undergraduates continue their education by seeking advanced degrees.

### Student Learning Outcomes

Upon completion of the Wildlife and Fisheries Sciences major, students will:

- Understand ecological and environmental principles required for management of natural resources for multiple-uses, including (but not limited to) wildlife habitat, water management, ecosystems services, recreation, and livestock production.
- Describe how natural resource management fits into the context of society and how societal factors (e.g., economics, policy, laws, regulations, attitudes, behaviors, norms) influence natural resource management.
- Lead and work with others as appropriate to successfully manage natural resources.

- Apply natural resource field and lab techniques and contemporary technologies to management of natural resources.
- Analyze and critically evaluate data and other information.
- Communicate (both written and orally) with both scientific and non-scientific audiences.
- Display professional and ethical behavior consistent with that expected in a natural resource management field.

### Accreditation, Certification, and Licensure

Academic requirements for Wildlife and Fisheries Sciences are based on certification programs of the American Fisheries Society and The Wildlife Society.

### Course Delivery Format

The Wildlife and Fisheries program is on campus and engages students in experiential learning in lecture, laboratory, and field based settings.

### Requirements for Wildlife and Fisheries Sciences Major: 120 Credits

*Bachelor of Science*

### System General Education Requirements

- Goal #1 Written Communication: ENGL 101 - Composition I (COM) [SGR #1] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- Goal #3 Social Sciences/Diversity: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities/Diversity: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- Goal #6 Natural Sciences: BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4 and PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4 or PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4

### College of Agriculture, Food and Environmental Sciences Requirements

### Bachelor of Science Requirements: 11

Students who wish to complete a Bachelor of Science in Agriculture, Food and Environmental Sciences must complete a minimum of 11 credits from the approved list of Group 1 courses. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

System General Education Requirements and/or major coursework may satisfy some or all of the above requirements. Please review major requirements and the Group 1 list to determine if additional courses are required.

- NRM 282-282L - Natural Resource Statistics and Lab Credits: 3 (Major Requirement)
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3 (Major Requirement)
- NRM 311 - Principles of Ecology (COM) Credits: 3 (Major Requirement)

### Major Requirements

- AS 332 - Livestock Breeding and Genetics Credits: 4
  or BIOL 371 - Genetics (COM) Credits: 3
- BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3
- CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1
  and CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1
  or CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
  and CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
  or PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1 (recommended)
  or PS 243 - Principles of Geology [SGR #6] Credits: 3
- ENGL 379 - Technical Communication (COM) Credits: 3
  or CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
- NRM 119 - Orientation to Natural Resource Management Credits: 2
- NRM 230 - Natural Resource Management Techniques Credits: 2
- NRM 276 - Scientific Communications Credits: 1
- NRM 282-282L - Natural Resource Statistics and Lab Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- WL 411-411L - Principles of Wildlife Management and Lab Credits: 3
- WL 412-412L - Principles of Fisheries Management and Lab Credits: 3

### Botany Requirement

Select one of the following courses.

- BOT 301-301L - Plant Systematics (COM) Credits: 3
- BOT 303-303L - Forest Ecology and Management and Lab Credits: 3
- BOT 405-405L/505-505L - Grasses and Grasslike Plants and Lab Credits: 3
- BOT 415-415L/515-515L - Aquatic Plants and Lab Credits: 3
- BOT 419-419L - Plant Ecology and Lab (COM) Credits: 3

### Organismal Group Electives

Select three of the following courses.

- WL 355-355L - Mammalogy and Lab (COM) Credits: 3
- WL 363-363L - Ornithology and Lab (COM) Credits: 4
- WL 367-367L - Ichthyology and Lab Credits: 3
- WL 418-418L/518-518L - Ecology of Aquatic Invertebrates and Lab Credits: 3
- WL 434-434L - Herpetology and Lab (COM) Credits: 3

### Advanced Group Electives

Select three of the following courses.

- BIOL 373 - Evolution (COM) Credits: 3
- EES 425-425L/525-525L - Disturbance and Restoration Ecology and Lab Credits: 3
- EES 430-430L/530-530L - Biological Invasions and Lab Credits: 3
- NRM 350 - Conservation and Management of Endangered and Nongame Wildlife Credits: 3
- NRM 450-450L/550-550L - Freshwater Monitoring and Assessment and Lab Credits: 3
- NRM 464-564 - Ecosystem Ecology Credits: 3
- NRM 466-566 - Environmental Toxicology and Contaminants (COM) Credits: 3
- NRM 482-482L/582-582L - Natural Resource Management Biometry Credits: 3
- RANG 321 - Wildland Ecosystems Credits: 3
- RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4
- WL 415-415L/515-515L - Upland Game Ecology and Management and Lab Credits: 3
- WL 417-417L/517-517L - Large Mammal Ecology and Management and Lab Credits: 3
- WL 419-419L/519-519L - Waterfowl Ecology and Management and Lab Credits: 3
- WL 421-521 - Grassland Fire Ecology Credits: 3
- WL 425-425L/525-525L - Wildlife Nutrition and Disease and Lab Credits: 3
- WL 427-427L/527-527L - Limnology and Lab Credits: 3
- WL 429-529 - Ecology of Fishes and Habitat Credits: 3
- WL 431-431L/531-531L - Advanced Fisheries Management and Lab Credits: 3

### Human Dimensions Requirement

- WL 430 - Human Dimensions in Natural Resource Management Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
  or WL 420 - Wildlife Law Enforcement Credits: 3

### Electives

Taken as needed to complete any additional degree requirements.

### Total Required Credits: 120

### Summary of Program Requirements

**Bachelor of Science**

| | |
|---|---|
| System General Education Requirements | 32 Credit Hours |
| College of Agriculture, Food and Environmental Sciences Requirements* | 11 Credit Hours |
| Major Requirements | 66-73 Credit Hours |
| Electives** | 13-20 Credit Hours |

*System General Education Requirements, Major Requirements, and Supporting Coursework may satisfy some or all of the above requirements.
**Taken as needed to complete any additional degree requirements.

### Academic Advising Guide Sheet

The goal of the academic advising guide sheets and sample plans of study is to promote undergraduate student success by guiding all students to timely completion of an undergraduate degree. Students are not limited to the course sequence provided for their academic program. Instead, the sample plan of study is one possible path to completing your degree and is meant to be used as a guide for planning purposes in consultation with an academic advisor. The plans also help students prepare for meetings with their academic advisor and track their progress in their selected academic program.

- Wildlife and Fisheries Sciences (B.S.)

# Minors

## Accounting Minor

### Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The Accounting minor provides students with advanced training in accounting, including managerial, financial, cost and income tax accounting. It is recommended for students with career interests in fields such as accounting, finance, business administration, and entrepreneurship. It provides a strong foundation for a graduate program in accounting.

### Student Learning Outcomes

Students earning a minor in Accounting will be able to:

- Record business transactions following Generally Accepted Accounting Principles;
- Read and analyze financial statements;
- Know the basics of cost determination and allocation;
- Prepare income tax schedules and returns; and
- Demonstrate the capacity to evaluate ethical matters within the context of the discipline.

### Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Accounting Minor: 21 Credits

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- ACCT 310 - Intermediate Accounting I (COM) Credits: 3
- ACCT 311 - Intermediate Accounting II (COM) Credits: 3
- ACCT 320 - Cost Accounting (COM) Credits: 3
- ACCT 430 - Income Tax Accounting (COM) Credits: 3
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
  or ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3

**Total Required Credits: 21**

## Advertising Minor

### Program Coordinator/Contact

Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211
605-688-4171

### Program Information

The Advertising minor program is open to students majoring in all fields. The program prepares students with effective written and visual communication, critical thinking, design, and research skills.

### Student Learning Outcomes

Students completing a minor in Advertising will:

- demonstrate an understanding of the diversity of peoples and cultures and of the significance and impact of mass communications in a global society;
- understand concepts and apply theories in the use and presentation of images and information;
- demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness and diversity;
- think critically, creatively and independently;
- write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve;
- apply current tools and technologies appropriate for the communications professions in which they work, and to understand the digital world.

### Academic Requirements

Advertising minors must have grades of "C" or better in the program's courses.

### Equipment and Supplies

Students are encouraged to purchase a laptop (Apple Mac preferred) and software appropriate for the discipline.

### Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

### Requirements for Advertising Minor: 18 Credits

- ADV 370 - Advertising Principles (COM) Credits: 3
- ADV 371-371L - Advertising Copy and Design and Studio (COM) Credits: 3
- ADV 372-372L - Advertising Media Strategies and Lab Credits: 3
- ADV 476-576 - Global and Multicultural Advertising Credits: 3

### Select from the following:

Credits: 6

- ADV 314 - Digital Promotions Credits: 3
- ADV 442-442L - Integrated Marketing Communication and Campaigns Studio (COM) Credits: 3
- ADV 472 - Research and Planning (COM) Credits: 3
- CMST 422 - Persuasion (COM) Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- MCOM 265-265L - Basic Photography and Lab (COM) Credits: 3

**Total Required Credits: 18**

## Aerospace Engineering Minor

### Program Coordinator/Contact

Jeffrey Doom, Associate Professor
Department of Mechanical Engineering
Crothers Engineering Hall 220, Box 2219
605-688-6703

### Program Information

Aerospace engineering is the primary field of engineering concerned with design and development of aircraft and spacecraft. Applications include traditional piloted fixed-wing and rotary-wing aircraft, as well as autonomous aircraft of various types. The Aerospace Engineering Minor specifies a sequence of courses and academic experiences that provide a basic background in concepts required to solve design problems in aerospace applications.

### Student Learning Outcomes

Upon completing the Aerospace Engineering Minor, the student outcomes are:

- Ability to apply mathematics and engineering science to the design of structural elements, propulsion systems, and other fundamental components of aircraft or spacecraft.
- Understanding of, and ability to apply the concepts of fluid mechanics and aerodynamics to the design of aircraft.
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice in the aerospace industry.
- An understanding of professional and ethical responsibility in engineering practice in the aerospace industry.

### Course Delivery Format

Mechanical engineering is an occupation requiring both study and practice. Instruction occurs through a combination of traditional classroom methods, laboratory exercises using contemporary engineering technologies, and design project experiences.

### Requirements for Aerospace Engineering Minor: 18 Credits

- EM 321 - Mechanics of Materials (COM) Credits: 3
- EM 331 - Fluid Mechanics (COM) Credits: 3
- ME 311 - Thermodynamics I Credits: 3
  or ME 314 - Thermodynamics Credits: 3
- ME 431-531 - Aerodynamics Credits: 3

### Select from the following

Select six credits from the following. Credits: 6

- ME 413-513 - Turbomachinery Credits: 3
- ME 417-417L/517-517L - Computer-Aided Engineering and Lab Credits: 3
- ME 437-537 - Gas Dynamics I Credits: 3
- ME 441-541 - Robotic Systems Credits: 3
- ME 442-542 - Applications of Computational Fluid Dynamics Credits: 3

**Total Required Credits: 18**

## Aerospace Studies Minor

### Program Coordinator/Contact

Lt Col Jason Haufschild, Department Head
AFROTC / Aerospace Studies
Box 2236 DePuy Military Hall, Room 100
605-688-6106

### Program Information

Satisfactory completion of the four-year Air Force ROTC program, 18 credits, constitutes a minor in Aerospace Studies in the College of Arts, Humanities and Social Sciences.

### Student Learning Outcomes

Upon completing an Aerospace Studies minor, students should be able to:

- Understand and demonstrate leadership principles, methods and skills.
- Effectively apply leadership skills including problem solving, coordination, control, delegation, dynamic leadership, and taking the initiative.
- Comprehend professional qualities including loyalty, discipline, dedication and integrity. Accepting responsibility, develop attention to detail, situational awareness, professional attitude and human relations awareness.
- Effectively demonstrate communication skills. Be clear, concise, articulate and confident with verbal and written skills.
- Comprehend and implement effective judgment and decision-making skills including time management, resources, learning from mistakes and reacting to counseling.
- Comprehend a warrior ethos. The ability to adapt to change, perform under stress and operate in expeditionary environments.
- Demonstrate dynamic followership through supporting and motivating others, enhancing team cohesiveness and contributing to the team.
- Comprehend the breadth and depth of National Security requirements of the United States.
- Understand the historical significance and legacy of the U.S. Air Force and its contributions to our National Security.
- Comprehend the chain of command within the military branches.
- Comprehend and demonstrate positive ethics to a variety of scenarios.
- Comprehend and demonstrate the Air Force's core values of integrity first, service before self and excellence in all we do.
- Comprehend current challenges of our Combatant Commands and their future roles as officers within those commands.

### Academic Requirements

Students entering AFROTC must have a minimum 2.0 cumulative GPA. By the second semester of their sophomore year, they must have a 2.50 term GPA prior to their junior year to continue in the program, then maintain a minimum 2.5 CGPA their junior and senior years in AFROTC courses to earn this minor.

Students must be a sole US citizen, either by birth or by naturalization.

### Course Delivery Format

The Aerospace Studies curriculum is divided into two courses of instruction. The General Military Course (GMC) is a one-credit academic course and laboratory taken each semester during the freshman and sophomore years. The Professional Officer Course (POC) is a three-credit academic course and laboratory taken each semester during the junior and senior years. Additional curriculum options are available to accommodate freshman students pursuing undergraduate degrees that normally require five years to complete and to accommodate undergraduate students who have three years remaining to complete their degrees.

The laboratory includes a mandatory physical fitness program in which all students must have a physical exam certified by competent medical authority. These physicals are available through SDSU Student Health for a nominal fee. All students pursuing a commission will also attend field training at a designated Air Force base during a summer, normally between their sophomore and junior years.

### Commission

Upon graduation and completion of the AFROTC curriculum, each student is commissioned as a second lieutenant in the United States Air Force or Space Force on active duty, in the Guard or Reserve. The initial Air Force assignment options for second lieutenants include the following:

- Enter the Air Force or Space Force and complete the designated technical training prerequisite to the lieutenant's assigned specialty; e.g., flight training, research and development, management, support functions, etc.
- Apply for an Air Force-sponsored graduate study program while serving with full pay as a commissioned officer.

Upon entering the Air Force or Space Force, newly commissioned second lieutenants incur an active duty commitment of four years. After initial aviation training, those competing and selected for navigator and air battle management specialties incur a six year commitment; those selected for pilot training incur a ten year commitment.

### Requirements for Aerospace Studies Minor: 18 Credits

- AIR 101-101L - The Foundations of the US Air Force and Lab Credits: 1
- AIR 102-102L - The Foundations of the US Air Force and Lab Credits: 1
- AIR 201-201L - Team and Leadership Fundamentals I and Lab Credits: 1
- AIR 202-202L - Team and Leadership Fundamentals II and Lab Credits: 1
- AIR 301-301L - Air Force Leadership Studies and Lab Credits: 3
- AIR 302-302L - Air Force Leadership Studies and Lab Credits: 3
- AIR 401-401L - National Security Affairs/Preparation for Active Duty and Lab Credits: 3
- AIR 402-402L - National Security Affairs/Preparation for Active Duty and Lab Credits: 3

### Electives

Electives are selected with departmental approval. Credits: 2

**Total Required Credits: 18**

## Agribusiness Marketing Minor

### Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The Agribusiness Marketing minor exposes students to the details of agricultural commodity market and provides training in both the theory and practice of pricing tools such as futures and options. This minor will benefit students pursuing careers in commodity marketing, risk management, production agriculture, agribusiness, rural banking, and other fields.

### Student Learning Outcomes

Graduates will

- be able to use analytical methods to make effective decisions.
- be able to communicate effectively.
- be able to evaluate matters of ethics in the profession and the culture more broadly.
- have the requisite body of knowledge in management and economics.

### Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Agribusiness Marketing Minor: 18 Credits

- AGEC 274 - Agribusiness Sales Credits: 3
  or MKTG 474 - Personal Selling (COM) Credits: 3
- AGEC 354 - Agricultural Marketing and Prices Credits: 3

- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3

### Electives

Select six credits from the following list. Credits: 6

- AS 218 - Survey of Animal Nutrition Credits: 3
  or AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3
- AST 313-313L - Farm Machinery Systems Management and Lab Credits: 3
- HO/ PS 434-534 - Local Food Production Credits: 2
- HO/ PS 435 - Local Food Production: Harvest and Storage Credits: 2
- MKTG 474 - Personal Selling (COM) Credits: 3 (if not used in the list above)
- MKTG 476-576 - Marketing Research (COM) Credits: 3
- PS 403-403L/503-503L - Seed Technology and Lab Credits: 2, 1
- VET 403 - Animal Diseases and Their Control Credits: 3

**Total Required Credits: 18**

## Agricultural Business Minor

### Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The Agricultural Business minor builds on a foundation of economic theory as it applies to the agricultural sector. This minor will benefit students pursuing careers in production agriculture, agribusiness, rural banking, and other fields.

### Student Learning Outcomes

Graduates will

- be able to use analytical methods to make effective decisions.
- be able to communicate effectively.
- be able to evaluate matters of ethics in the profession and the culture more broadly.
- have the requisite body of knowledge in management and economics.

### Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor. At least three courses for the minor must be prefixed AGEC.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Agricultural Business Minor: 18 Credits

- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AGEC 371 - Agricultural Business Management Credits: 3
  or MGMT 360 - Organization and Management (COM) Credits: 3
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3

### Electives

Select nine credits from the following list. Credits: 9

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AGEC 271 - Farm and Ranch Management Credits: 3
- AGEC/ BLAW 352 - Agricultural Law Credits: 3
  or AGEC/BLAW 462-562 - Environmental Law Credits: 3
  or AGEC/BLAW 366 - Food Law Credits: 3
  or BLAW 350 - Legal Environment of Business (COM) Credits: 3
- AGEC 364 - Introduction to Cooperatives Credits: 3
- AGEC 471-571 - Advanced Farm & Ranch Management Credits: 3
- AGEC 478 - Agricultural Finance Credits: 3
- AGEC 479-579 - Agricultural Policy Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3

**Total Required Credits: 18**

### Note

At least three courses for the minor must be prefixed AGEC.

## Agronomy Minor

### Program Coordinator/Contact

David Wright, Department Head
Brent Turnipseed, Assistant Department Head
Hani Ghosheh, Undergraduate Teaching Coordinator
Department of Agronomy, Horticulture, and Plant Science
Raven Precision Agriculture Center 140
605-688-5123 (Department Head, SRPAC 140)
605-688-4450 (Teaching Office, SNP 247)

### Program Information

The Agronomy minor provides training in plant, soil, and pest management. This program can complement a variety of majors, enhancing agricultural related career opportunities in numerous sectors of the economy. Employment possibilities include careers in crop consulting, crop/plant research, and with private industry managing agricultural inputs such as pesticides and fertilizers; developing improved seed traits, plant sciences, genomics, and seed production; and for work with government agencies, such as the Cooperative Extension Service, Farm Service Agency, Agricultural Research Service, and Natural Resources Conservation Service.

### Student Learning Outcomes

Upon completion of the Agronomy minor, students will:

- achieve a fundamental understanding of basic agronomy principles and practices;
- gain an understanding of the scope, activities, and nomenclature in the field of agronomy;
- demonstrate the ability to effectively communicate (written, listening, and oral) with both scientific and non-scientific audiences;
- be an advocate for agronomy and agriculture in society; and
- be a lifelong learner.

### Academic Requirements

Students must have a 2.5 GPA or higher and a grade of C or higher in the courses used to satisfy the Agronomy Minor.

### Accreditation, Certification, and Licensure

- Students seeking Soil Science Certification should contact their advisor and refer to the Soil Science Society of America website.
- Students seeking Certification as a professional agronomist should contact their advisor and refer to the Certified Crop Advisor website.
- Students seeking Seed Analyst Certification should contact their advisor and refer to the Association of Official Seed Analysts and Society of Commercial Seed Technologists website.

### Course Delivery Format

The program coursework is available on campus, in classroom and laboratory settings, as well as field-based settings.

### Requirements for Agronomy Minor: 18 Credits

- PRAG 423-523 - Soil Fertility and Plant Nutrient Management Credits: 3
- PS 103-103L - Crop Production and Lab Credits: 2, 1
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- PS 223-223L - Principles of Plant Pathology and Lab Credits: 2, 1
- PS 405-405L/505-505L - Entomology and Lab (COM) Credits: 3
  or PS 407-407L/507-507L - Insect Pest Management and Lab Credits: 2, 1
- PS 445-445L/545-545L - Weed Science and Lab Credits: 3

**Total Required Credits: 18**

## American Indian & Indigenous Studies Minor

### Program Coordinator/Contact

Mark Freeland, Assistant Professor and Coordinator of American Indian and Indigenous Studies
School of American and Global Studies
West Hall 106, Box 510
605-688-5101

### Program Information

The American Indian and Indigenous Studies program prepares critical thinkers for living in an interrelated world with the rigorous engagement of Indigenous intellectual traditions, interdisciplinary theories, methods, and community engagement. The AIIS Minor provides a useful complement to any major by developing a deeper understanding of cultural competency and working across

difference. Coursework provides an understanding of American Indian and Indigenous worldviews as lenses to comprehend traditional knowledge and culture.

### Student Learning Outcomes

- Identify and analyze the trajectory of colonization and decolonization among Indigenous peoples in the North American context.
- Apply a theory of Indigenous worldview to effectively demonstrate cultural difference among Indigenous peoples and between Indigenous and non-Indigenous peoples.
- Critically analyze and evaluate contemporary Indigenous issues working across academic disciplines to further the process of decolonization and Indigenization.

### Course Delivery Format

Program courses are taught on campus, online, and in field-based settings.

### Requirements for American Indian and Indigenous Studies Minor: 17-19 Credits

- AIS 100 - Introduction to American Indian and Indigenous Studies Credits: 3
- AIS/ LAKL 101 - Introductory Lakota I (COM) [SGR #4] Credits: 4
- AIS/ REL 238 - Native American Religions [SGR #4] Credits: 3

### Electives

Select from the following list. Credits: 7-9

- AIS/ LAKL 102 - Introductory Lakota II (COM) [SGR #4] Credits: 4
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3
- AIS/ WMST 361 - Gender and Sexuality Credits: 3
- AIS 367 - Rise of American Indian Activism Credits: 3
- AIS/ HIST 368 - History and Culture of the American Indian (COM) Credits: 3
- AIS/ HIST 373 - Oral History Credits: 3
- AIS 430-530 - Indigenous Relationships to the Environment Credits: 3
- AIS/ ENGL 445 - American Indian Literature (COM) Credits: 3
- AIS/ ENGL 447 - American Indian Literature of the Present Credits: 3
- AIS 462 - Formation of Federal Indian Policy Credits: 3
- AIS 471 - American Indians in Film (COM) Credits: 3

### Total Required Credits: 17-19

## Animal Health Minor

### Program Coordinator/Contact

David Knudsen, Professor
Department of Veterinary & Biomedical Sciences
Animal Disease Research and Diagnostic Laboratory 1122, Box 2175
605-688-5171

### Program Information

The Animal Health Minor provides students with coursework in veterinary and biomedical sciences in order to enhance their preparation for several different animal health related career paths. The coursework will augment pre-veterinary students' preparation for enrollment in colleges of veterinary medicine, and will enable students to enhance their knowledge of valuable animal health concepts that they can put to use in careers involving animal care, animal production, and animal health product research, development, and marketing.

### Student Learning Outcomes

Graduates with a minor in Animal Health will:

- gain an understanding of the scope, activities, and nomenclature of the veterinary profession as the pivotal field of study for animal health.
- achieve general skills and knowledge in the normal anatomy and physiology of common domestic animals, including cattle, sheep, horses, pigs, dogs, and cats.
- achieve general skills and knowledge in the spectrum of diseases that affect the health of domestic animals, together with prevention and control strategies used in minimizing the impact of animal disease.
- gain specialized understanding and knowledge in animal health through the completion of three (3) elective courses that focus on infectious disease and/or basic biomedical sciences.

### Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

### Course Delivery Format

Coursework for the program is delivered on campus in classroom and laboratory-based settings.

### Requirements for Animal Health Minor: 18 Credits

- VET 120 - Introduction to Veterinary Medicine Credits: 1
- VET 183 - Veterinary Medical Terminology Credits: 1
- VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4
- VET 403 - Animal Diseases and Their Control Credits: 3

### Electives

Select three courses from the following. Credits: 9

- BIOL 467-467L/567-567L - Parasitology and Lab (COM) Credits: 3
- HSC 445 - Epidemiology Credits: 3
- MICR 433-533 - Medical Microbiology (COM) Credits: 3
- MICR 439-539 - Medical and Veterinary Immunology Credits: 3
- MICR 440L - Infectious Disease Lab Credits: 3
- VET 424-524 - Medical and Veterinary Virology Credits: 3
- VET 476-576 - Advanced Mammalian Physiology Credits: 4
- WL 425-425L/525-525L - Wildlife Nutrition and Disease and Lab Credits: 3

### Total Required Credits: 18

## Animal Science Minor

### Program Coordinator/Contact

Rosie Nold, Professor and Assistant Department Head
Department of Animal Science
Animal Science Complex 116
605-688-5459

### Program Information

A minor in Animal Science will supplement any major and provide students exposure to the technology of breeding, feeding, producing, managing, evaluating, and marketing beef cattle, sheep, hogs, horses, and poultry, as well as the processing of their products—meat, eggs, and wool.

### Student Learning Outcomes

Students completing an Animal Science minor will or will be able to:

- discuss animal agriculture from a local, regional, national and international perspective.
- have a working knowledge of current and emerging best management practices and technologies for the animal industries.
- describe how the various scientific disciplines within animal sciences, including nutrition, health, reproduction, genetics and meat science interrelate and interact with regard to animal production.
- identify nutrient requirements for livestock and companion animals of various species and stages of production and be able to formulate rations appropriately.
- have an understanding of factors important in livestock selection and/or final products from livestock.

### Course Delivery Format

The Animal Science program provides hands-on experiences in the classroom, laboratories, field trips, and at the livestock teaching units.

### Requirements for Animal Science Minor: 18 Credits

- AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1
  or AS 102 - Fundamentals of Animal Science Credits: 3
- AS 218 - Survey of Animal Nutrition Credits: 3
  or AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
  or AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 3
- AS 332 - Livestock Breeding and Genetics Credits: 4

### Electives

### Select from the following:

Select at least one course from the following list. Credits: 2-3

- AS 104-104L - Introduction to Horse Management and Lab Credits: 3
- AS 202 - Basic Swine Science Credits: 2
- AS 264 - Ruminant Livestock Production Credits: 3

**Select from the following:**

Select from the following to total 18 credits:

- AS 104-104L - Introduction to Horse Management and Lab Credits: 3
- AS 161 - Companion Animals Credits: 2
- AS 200 - Introduction to Meat Judging Credits: 1-2
- AS 201 - Introduction to Livestock Judging Credits: 1-2
- AS 202 - Basic Swine Science Credits: 2
- AS 264 - Ruminant Livestock Production Credits: 3
- AS 333-333L - Livestock Reproduction and Lab Credits: 3
- AS 389 - Current Issues in Animal Science Credits: 3
- VET 403 - Animal Diseases and Their Control Credits: 3

**Total Required Credits: 18**

## Apparel & Fashion Studies Minor

### Program Coordinator/Contact

Kendra Kattelmann, Director
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5161

### Program Information

A minor in Apparel and Fashion Studies will provide a focus on fashion studies and will develop students into professionals capable of entering the workforce of fashion, apparel, and textiles. The coursework is designed to prepare students with a better understanding of the apparel and fashion industry, which will expand their awareness of aesthetics, allow them to analyze garment construction and identify textiles and fabrics, enable their understanding and implementation of design elements and principles, and ensure their appreciation of the impact that dress has on the world.

### Student Learning Outcomes

Students who complete the Apparel and Fashion Studies minor will:

- Demonstrate factual knowledge of terminology, methods and classifications related to the fashion process and industry, the role of fashion in society, and professional practices in the global workforce.
- Apply design principles in order to design and evaluate store layout, window displays, and wall presentation strategies.
- Identify fibers, yarns, and fabrics and relate fiber properties to their performance and care requirements.
- Evaluate product quality and serviceability and illustrate the relationships among costs, costing, and profit for garments, and will appreciate how aesthetics add value to the apparel product and our surroundings.

### Academic Requirements

Fashion Studies and Retail Merchandising majors are not eligible for the minor.

### Course Delivery Format

Students learn through lecture, laboratory, and hands-on learning experiences.

### Requirements for Apparel and Fashion Studies Minor: 18 Credits

- FSRM 172 - Introduction to Apparel Merchandising Credits: 2
- FSRM 231-231L - Ready-To-Wear Analysis and Lab Credits: 3
- FSRM 242-242L - Textiles I and Lab Credits: 3
- FSRM 274-274L - Fashion Promotion and Lab Credits: 3

**Select from the following**

Select at least 7 credits from the following list. Credits: 7

- FSRM 253 - Socio-Psychological Aspects of Dress Credits: 3
- FSRM 282 - Customer Service Credits: 3
- FSRM 315-315L - Apparel Design and Lab Credits: 3
- FSRM 352 - History of Dress in the Western World Credits: 3
- FSRM 361-361L - Aesthetics and Lab Credits: 3
- FSRM 372-372L - Trending and Buying and Lab Credits: 3
- FSRM 381 - Professional Behavior at Work Credits: 3
- FSRM 462 - Retail Management Credits: 3
- FSRM 472-472L - Merchandising and Lab Credits: 3
- FSRM 473-473L - Global Sourcing and Lab Credits: 3
- FSRM 477 - Current Issues in the Workplace Credits: 1
- FSRM 491 - Independent Study (COM) Credits: 1-3 (1 credit required)

**Total Required Credits: 18**

## Aviation Minor

### Program Coordinator/Contact

Cody Christensen, Associate Professor
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5161

### Program Information

The Aviation program offers students across campus a unique opportunity for exposure to the aviation field through completion of a minor. If a student in any field wants to work in the aviation industry as a finance manager, scheduler, operations manager, or airport planner, a minor in aviation is highly recommended. As part of the minor, students will earn their Federal Aviation Administration Private Pilot license with Instrument rating.

### Student Learning Outcomes

Students completing the Aviation minor will be able to:

- gain an understanding of performance factors, aircraft design, meteorology, and decision-making as they relate to aviation.
- apply the necessary skills to successfully pass the FAA Private Pilot certificate and instrument rating.

### Course Delivery Formats

Aviation students learn through lecture, laboratory, student lead instruction, and flight training based at the Brookings Regional Airport.

### Requirements for Aviation Minor: 17 Credits

- AVIA 170 - Fundamentals of Flight Theory Credits: 3
- AVIA 171 - Introductory Flight I Credits: 2
- AVIA 180 - Attitude Instrument Theory Credits: 2
- AVIA 181 - Introductory Flight II Credits: 2
- AVIA 200 - Aviation Safety Credits: 3
- AVIA 370 - Professional Pilot Theory I Credits: 3
- AVIA 372 - Professional Flight I Credits: 2

**Total Required Credits: 17**

## Biology Minor

### Program Coordinator/Contact

Radhey Kaushik, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141

### Program Description

The Biology minor is open to all majors and provides exposure to fundamental areas of biology. Students select from microbiology, botany and animal based classes based on their desired career path. The curriculum appeals to majors in agricultural and biological sciences, as well as those in the social sciences and humanities who seek an understanding of the significance of biological changes and want to apply this knowledge in their chosen field.

### Student Learning Outcomes

Upon completion of the Biology minor, students will:

- demonstrate understanding and application of evolution; biological structure and function; biological and biochemical pathways and transformations of energy and matter; and biological systems.
- apply the process of science.
- demonstrate understanding of and application of quantitative reasoning; information flow, exchange, and storage; relationship between science and society.

### Academic Requirements

A minimum GPA of 2.0 must be maintained in the major courses.

### Course Delivery Format

Program coursework is on-campus, in classroom and laboratories, as well as field-based settings. Additional coursework is available at off-campus attendance centers. Limited coursework is available online.

### Requirements for Biology Minor: 18 Credits

- BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3
  or BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4

### Electives

Credits: 14-15

- Two courses must be at the 300 level or above.
- No more than 3 credits can come from courses numbered 491, 492, 494, 496, 497, and 498.

### Total Required Credits: 18

## Biomedical Engineering Minor

### Program Coordinator/Contact

Stephen Gent, Professor
Department of Mechanical Engineering
Crothers Engineering Hall 218
605-688-5337

### Program Information

Students interested in both engineering and the life sciences, especially medicine, should strongly consider a career in biomedical engineering. Biomedical engineering is defined as the application of the concepts and methods of engineering and the physical sciences to medicine and biology. The biomedical engineering field covers a very broad range of topics from formalized mathematical theory through experimental science and technological development to practical clinical applications. It is a broad multidisciplinary field that offers rewarding careers related to computer science, electrical engineering, engineering physics, mathematics and statistics, mechanical engineering, software engineering, and agricultural & biosystems engineering. SDSU has long prepared students for careers in biomedical engineering by tailoring their engineering degrees for this specialty. Engineering students who complete the 18 credit minor will be well prepared for engineering careers in industry or for entering graduate programs in biomedical engineering or medicine. SDSU has placed graduates in the top M.D. and biomedical engineering graduate schools throughout the country.

The minor is intended for engineering majors only and includes courses and experience in three categories: (1) engineering core, (2) life science core, and (3) biomedical engineering core. Prior to graduation, students must complete a two-semester capstone design project related to biomedical engineering. Students are also encouraged to seek practical experience by completing an internship in biomedical engineering.

### Student Learning Outcomes

Students who complete the Biomedical Engineering Minor will be able to:

- demonstrate an ability to apply knowledge of mathematics, engineering and the life sciences by completing a major capstone design project in the field of biomedical engineering;
- demonstrate an ability to independently conduct literature research on a current biomedical engineering topic and its application/impact on society and his/her engineering major; and
- demonstrate an ability to clearly, effectively, and succinctly communicate biomedical engineering related technical information in both written and spoken forms.

### Requirements for Biomedical Engineering Minor: 18

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- EE 454-554 - Biomedical Instrumentation and Electrical Safety Credits: 3
  or EXS 454-454L - Biomechanics and Lab (COM) Credits: 3
  or ME 446-546 - Engineering Mechanics in Biomedical Applications Credits: 3
  or ME 448-548 - Mechanical Behavior of Biomaterials Credits: 3
- EE 464 - Senior Design Project I (COM) Credits: 2
  or ME 478 - Mechanical Systems Design I Credits: 2
  *see note one below.
- EE 465 - Senior Design Project II (COM) Credits: 2
  or ME 479-479L - Mechanical Systems Design II and Lab (COM) Credits: 2
  *see note one below.
- EE 491 - Independent Study (COM) Credits: 1-3 (3 credits required)
  or EE 494 - Internship (COM) Credits: 1-3 (3 credits required)
  or EE 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3 (3 credits required)
  or ME 491 - Independent Study (COM) Credits: 1-5 (3 credits required)
  or ME 494 - Internship (COM) Credits: 1-3 (3 credits required)
  or ME 498 - Undergraduate Scholarship/Research (COM) Credits: 1-3 (3 credits required)
  ** see note two below.

### Total Required Credits: 18

### Notes

* The capstone design project must focus on biomedical engineering and be approved by the respective Coordinator.
** Must be biomedical engineering project approved by the respective Coordinator.

## Bioprocessing Sciences Minor

### Program Coordinator/Contact

Vikram Mistry, Interim Associate Dean and Director of Academic Programs
College of Agriculture, Food and Environmental Sciences
Berg Agricultural Hall 156, Box 2207
605-688-5133

### Program Information

The interdisciplinary minor in Bioprocessing Sciences will provide students with a general understanding of principles and development of skills in bioprocessing technologies such as fermentation, bioseparation, and energy transfer. Principles of quality control, operational efficiency, safety, and project management are also important components of the minor. Students will learn how to apply these principles and technologies in commercial product bio-based manufacturing and environmental services.

Bioprocessing technologies are used in a variety of industries ranging from renewable fuels, food and drink products, pharma- and nutraceuticals, and environmental remediation of wastes. This minor will combine courses from several disciplines to enhance the student's knowledge of these technologies and provide hands-on experiences with their applications, thus helping to prepare students for career opportunities in the bioprocessing industries.

### Student Learning Outcomes

Students completing the minor in Bioprocessing Sciences will be able to:

- Understand how cells or cellular components of biomaterials can be grown to produce commercial quantities of desired raw products (upstream bioprocessing).
- Understand and use biomass separation techniques to extract desired product from cell debris (downstream bioprocessing).
- Apply bioprocessing principles (e.g., fermentation, heat, mass, and energy transfer) to manufacturing of renewable energy and commercial bioproducts or to management of environmental waste.
- Apply principles of quality control, operations efficiency, project management, and safety to manufacturing of bio-based products.
- Demonstrate understanding and applications of operational protocol used in a bioprocessing discipline.
- Demonstrate a working knowledge of one or more industries that utilize bioprocessing technologies.

### Course Delivery Format

Coursework is delivered in a face-to-face learning environment with hands-on class laboratory experiences and an experiential learning component.

### Requirements for Bioprocessing Sciences Minor: 18 Credits

- ABE 343-343L - Engineering Properties of Biological Materials and Lab Credits: 3
  or ME 311 - Thermodynamics I Credits: 3
  or ME 314 - Thermodynamics Credits: 3
- ABE 411 - Design Project III Credits: 2 *
  or XXX 494 - Internship Credits: 1-2 *
  or XXX 498 - Undergraduate Research Credits: 1-2 *
- ABE 444-444L/544-544L - Unit Operations of Biological Materials Processing and Lab Credits: 4
- AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3
  or FS 351-351L - Principles of Food Processing and Lab Credits: 3
  or ME 416-516 - Renewable Energy Systems Credits: 3
  or MICR 450 - Applied Microbiology and Biotechnology Credits: 3
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4
  or MICR 233-233L - Introductory Microbiology and Lab Credits: 4

* Must be relevant to bioprocessing and approved by program coordinator.

### Select from the following

Select 3-4 credits from the following. Credits: 3-4

- GE 425-525 - Occupational Safety and Health Management Credits: 3
- MICR 311-311L - Food Microbiology and Lab Credits: 4
- MICR 332 - Microbial Physiology Credits: 2

- MICR 332L - Microbial Physiology Lab Credits: 2
- MNET 231-231L - Manufacturing Processes I and Lab Credits: 3
- NUTR 426-426L/526-526L - Production of Wine Beer Spirits and Laboratory Credits: 3
- OM 240 - Decision Making Processes in Management Credits: 3
- OM 425 - Production and Operations Management Credits: 3

**Total Required Credits: 18**

## Botany Minor

### Program Coordinator/Contact

Lan Xu, Professor
Department of Natural Resource Management
Edgar S. McFadden Biostress Laboratory, Room 138
605-688-6121

### Program Information

The Botany minor crosses many disciplines, because plants are the base of the energy web within the natural environment. The program's flexible curriculum is adaptable for all students in the natural sciences, and is especially useful to students with interests in ecology and environmental science, range science, and wildlife and fisheries sciences.

### Student Learning Outcomes

Upon completion of the minor in Botany, students will:

- demonstrate understanding of ecological and environmental principles required for management of natural resources for multiple-uses, including (but not limited to) wildlife habitat, water management, ecosystem services, recreation and livestock production;
- describe how natural resource management fits into the context of society and how societal factors (e.g., economics, policy, laws, regulations, attitude, behaviors, norms) influence natural resource management;
- demonstrate the ability to lead and work with others as appropriate to successfully manage natural resources;
- demonstrate appropriate use of natural resource field and lab techniques as well as contemporary technologies;
- demonstrate the ability to appropriately analyze and critically evaluate data and other information;
- demonstrate the ability to effectively communicate (both written and orally) with both scientific and non-scientific audiences; and
- demonstrate an understanding of the professional and ethical responsibility that is imperative of a natural resource manager.

### Academic Requirements

A minimum GPA of 2.0 is required for all courses in the minor.

### Course Delivery Format

The program's courses are offered on campus in lecture, laboratory, and field-based settings.

### Requirements for Botany Minor: 18 Credits

- BIOL 103-103L - Biology Survey II and Lab (COM) [SGR #6] Credits: 3
  or BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4

### Electives

Credits: 14-15

### Select from the following:

Select at least two botany courses must be upper-division, 300 level or above.

- BOT 127 - Ethnobotany Credits: 3
- BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3
- BOT 301-301L - Plant Systematics (COM) Credits: 3
- BOT 303-303L - Forest Ecology and Management and Lab Credits: 3
- BOT 327-327L - Plant Physiology and Lab Credits: 4
- BOT 405-405L/505-505L - Grasses and Grasslike Plants and Lab Credits: 3
- BOT 415-415L/515-515L - Aquatic Plants and Lab Credits: 3
- BOT 419-419L - Plant Ecology and Lab (COM) Credits: 3
- BOT 492 - Topics (COM) Credits: 1-5

### Select from the following:

No more than 3 credits of may come from the following upper-division botany courses:

- BOT 491 - Independent Study (COM) Credits: 1-4
- BOT 494 - Internship (COM) Credits: 1-12
- BOT 496 - Field Experience (COM) Credits: 1-12
- BOT 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4

### Select from the following:

Additional elective credits may come from the following range courses:

- RANG 210-210L - Range Plant Identification and Lab Credits: 2
- RANG 400 - Judging Teams Credits: 1 (Sec 1.)

**Total Required Credits: 18**

## Chemistry Minor

### Program Coordinator/Contact

Douglas Raynie, Department Head
Nicole Grove, Coordinator of Undergraduate Programs
Department of Chemistry and Biochemistry
Avera Health and Science Center 247, Box 2202
605-688-5151

### Program Information

The Department of Chemistry and Biochemistry offers the chemistry minor for students who desire significant training in the chemical sciences without pursuing a degree in the discipline. The minor is particularly suitable for students in other majors whose career trajectories will require a thorough understanding of chemistry. Such careers may include secondary science teaching, biomedical engineers, biologists, dairy scientists, soil scientists, forensic psychologists, physicists, and many others.

### Student Learning Outcomes

As a result of earning the minor in Chemistry, students will demonstrate the following learning outcomes:

- ability to effectively communicate, in written format, scientific procedures and results;
- ability to connect chemistry to their major subject area;
- ability to integrate laboratory skills with theoretical knowledge.

### Academic Requirements

All courses must be completed with a grade of "C" or higher. At least 50% of credits earned toward the Minor in Chemistry must be completed at South Dakota State University.

### Course Delivery Format

Courses offered in the Chemistry minor curriculum are taught in a variety of formats to ensure competence in the chemical sciences. Didactic (lecture) methods ensure the development of foundational knowledge of chemistry. Practical (laboratory) methods ensure the development of laboratory skills and training.

### Requirements for Chemistry Minor: 20 Credits

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
  and CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
  or
  CHEM 115-115L - Atomic and Molecular Structure and Lab [SGR #6] Credits: 3, 1
  and CHEM 127-127L - Structure and Function of Organic Molecules and Lab [SGR #6] Credits: 3, 1

Twelve or more credits of upper division chemistry (CHEM 3XX or CHEM 4XX) should be chosen from courses beyond general chemistry- in the subdisciplines of analytical, biochemistry, inorganic, organic, physical and environmental. This should include laboratory experiences in at least two different areas beyond general chemistry (i.e., at least 2 of the 12 credits of upper division chemistry courses must be from different subdisciplines).

**Total Required Credits: 20**

## Commodity Risk Management Minor

### Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The Commodity Risk Management minor focuses on the quantitative skills needed to analyze agricultural commodities – hedging techniques, fundamental analysis, technical analysis, price forecasting, risk analysis, etc. The minor will utilize the

resources of the First Dakota National Bank e-Trading Lab to train students in all aspects of risk management of agricultural commodities, including but not limited to, the use of futures and options contracts to manage input and output price risks. It is important not only for agricultural producers to understand risk management, but it is also very important for the producers' industry partners to understand prudent risk management – brokers, bankers, insurance agents, input suppliers, buyers, etc. In addition to agricultural producers, most stages of the food, fiber, and fuel supply chain can benefit – graduates going into any agribusiness that is interested in controlling costs and pricing byproducts will benefit from the minor.

### Student Learning Outcomes

In the Commodity Risk Management minor, students will:

- Describe, illustrate, and evaluate fundamental factors impacting markets.
- Apply alternative risk management tools and strategies.
- Quantitatively evaluate risk in markets.
- Evaluate market signals, including the use of technical analysis.

### Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Commodity Risk Management Minor: 18 Credits

- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Electives

Select nine credits from the following. At least one course must be prefixed AGEC. Credits: 9

- AGEC 430-530 - Agribusiness Marketing and Prices Credits: 3
- AGEC 454 - Economics of Grain and Livestock Marketing Credits: 3
- AGEC 484-584 - Trading in Agricultural Futures and Options Credits: 3
- AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 3
- DSCI 453-553 - Risk Management - Personal and Business Credits: 3
- FIN 420-520 - Student Managed Investment Fund Credits: 3

**Total Required Credits: 18**

## Communication Studies Minor

### Program Coordinator/Contact

Joshua Westwick, Director
School of Communication and Journalism
Yeager Hall 211, Box 2235
605-688-4171

### Program Information

A minor in Communication Studies allows students to understand the central role that communication plays in people's lives, across a variety of contexts.

### Student Learning Outcomes

With a minor in Communication Studies, students will be able to:

- appropriately analyze and adapt oral and written messages that are effective, clear, and persuasive, given the audience and occasion.
- demonstrate the communication skills necessary to engage in personal, professional, civic and social relationships.
- critically evaluate verbal and nonverbal messages in differing social and cultural contexts in order to assess their effectiveness and ethical implications.
- demonstrate comprehension of concepts relative to the theory and criticism of human communication.
- demonstrate the ability to effectively gather information, research and analyze issues from a variety of perspectives.

### Course Delivery Format

A wide range of course formats are available in this major including, lectures, laboratory, small group, seminar, interactive and collaborative partnerships.

### Requirements for Communication Studies Minor: 18 Credits

- CMST 201 - Interpersonal Communication (COM) [SGR #3] Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
- CMST 434 - Small Group Communication (COM) Credits: 3

### Select from the following

Select nine credits from the following. Credits: 9

- CMST 200-level (Students may choose one 200-level CMST course or up to 3 credits of CMST 281 - Speech and Debate Activities (COM)) Credits: 3
- CMST 300-400 level courses (Electives as approved by the Department Head) Credits: 6-9

**Total Required Credits: 18**

## Computer Engineering Minor

### Program Coordinator/Contact

Siddharth Suryanarayanan, Department Head
Department of Electrical Engineering and Computer Science
Daktronics Engineering Hall 214
605-688-4526

### Program Information

Computer engineering is the engineering field that integrates topics in computer science and electrical engineering for the development of hardware and software specific to computers and embedded systems. Computer engineering deals with designing, developing, and operating computer systems. At its core, computer engineering concentrates on digital hardware devices and computers, and the software that controls them. Advanced courses focus on standard designs and techniques for specific application domains. In contrast to computer science and software engineering, computer engineering emphasizes solving problems in digital hardware and at the hardware-software interface. Applications include microcontroller and microprocessor-based systems, personal computers, high performance supercomputers, circuit design, and device engineering. The Computer Engineering Minor specifies a sequence of courses and academic experiences that provide a unique intersection of background and skills required to address computer engineering applications. Students will gain the requisite knowledge and skills to understand, analyze, and design systems comprised of both hardware and software.

### Student Learning Outcomes

Graduates with a minor in Computer Engineering will be able to:

- Design and analyze digital circuits and hardware such as those used in computer systems.
- Design and write low-level and high-level computer software germane to computer systems.

### Course Delivery Format

A majority of the courses are taught on campus in smart classrooms. The smart classrooms allow for a variety of methods for student engagement and faculty are able to record and post their lectures online.

### Requirements for Computer Engineering Minor: 18-19 Credits

- CSC 300 - Data Structures (COM) Credits: 3
- CSC 456 - Operating Systems (COM) Credits: 3
- EE 345 - Computer Organization Credits: 3
- EE 347-347L - Microcontroller Systems Design and Lab Credits: 3, 1

### Select from the following

Select 5-6 credits from the following. Credits: 5-6

- CSC 474-574 - Computer Networks Credits: 3
- CSC 487-587 - Network Security Credits: 3
- EE 492-592 - Topics (COM) Credits: 1-4 (3 credits required) (Advanced Digital Design)
- SE 440 - Embedded Systems Credits: 3
- CSC 491 - Independent Study (COM) Credits: 1-3
  or EE 491 - Independent Study (COM) Credits: 1-3
  or SE 491 - Independent Study (COM) Credits: 1-5 (1-3 credits required)
  or ME 491 - Independent Study (COM) Credits: 1-5 (1-3 credits required)
  or HON 491 - Independent Study (COM) Credits: 1-3

**Total Required Credits: 18-19**

## Computer Science Minor

### Program Coordinator/Contact

Siddharth Suryanarayanan, Department Head
Department of Electrical Engineering and Computer Science
Daktronics Engineering Hall 214
605-688-4526

### Program Information

The Computer Science minor offers students a flexible program that is well suited to enhance any major curricular and increase a graduate's marketability. CS related jobs are among the ten fastest growing careers that show a lot of promise and opportunity for growth.

### Student Learning Outcomes

Graduates with a minor in Computer Science will be able to:

- understand and be able to use important data structures and algorithms.
- code computer software using a high-level programming language.
- understand the hardware and software aspects of computer systems.

### Academic Requirements

Computer Science students must pass all minor courses with a grade of C or better.

### Course Delivery Format

A majority of the courses are taught on campus in smart classrooms. The smart classrooms allow for a variety of methods for student engagement and faculty are able to record and post their lectures on-line.

### Requirements for Computer Science Minor: 18 Credits

- CSC 150 - Computer Science I (COM) Credits: 3
- CSC 250 - Computer Science II (COM) Credits: 3
- CSC 300 - Data Structures (COM) Credits: 3
- Applied Electives Credits: 9
  Select courses numbered 300 or above from CSC or SE courses.

**Total Required Credits: 18**

## Construction Minor

### Program Coordinator/Contact

Albena Yordanova, Senior Lecturer
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417

### Program Information

Students in programs related to the construction industry including Architecture, Interior Design, Hospitality Management, Mechanical Engineering, and Civil Engineering should consider the minor in Construction. This minor will enhance the understanding of the design-build process for future architects, interior designers, hotel managers, HVAC designers, civil engineers, and land developers.

### Student Learning Outcomes

It is expected that persons completing the Construction Minor will be able to:

- have an understanding of construction fundamentals including specifications, interpretation of building codes, and project documents.
- be able to estimate human resources, time, and materials associated with the bid process.
- understand building systems, methods, and materials concepts.
- apply principles of project management to control time, money, and specifications in a classroom setting.

### Course Delivery Format

The program provides coursework on the Brookings campus in classroom, laboratory, and field-based settings. The CM program has a dedicated computer lab for CAD, estimating, project management, and building information modeling courses and shared fabrication space in the AME Production Lab.

### Requirements for Construction Minor: 18 Credits

- CM 216 - Construction Methods and Materials Credits: 3
  or CEE 216-216L - Civil Engineering Materials and Lab Credits: 2, 1
- CM 232 - Cost Estimating Credits: 3
- CM 410 - Construction Project Management and Supervision Credits: 3
- CM 443-553 - Construction Planning and Scheduling Credits: 3

### Electives

Select two of the following. Credits: 6

- CEE Technical Elective (any 300-400 level CEE prefix course) Credits: 3
- CM 333 - Mechanical, Electrical, Plumbing Systems Credits: 3
- CM 353 - Construction Structures Credits: 3
- CM 374 - Heavy Construction Methods and Systems Credits: 3
- CM 400-500 - Risk Management and Construction Safety Credits: 3
- CM 452 - Heavy and Highway Estimating Credits: 3
- CM 460-560 - Sustainable Building Systems Concepts and Analysis Credits: 3
- CM 473-573 - Construction Law and Contracts Credits: 3

**Total Required Credits: 18**

## Criminal Justice Minor

### Program Coordinator/Contact

Elizabeth Koob, Professional Advisor
School of Psychology, Sociology and Rural Studies
Hansen Hall 102
605-688-6296

### Program Information

The minor in Criminal Justice is designed for students seeking careers in probation, parole, court services, pre-law, private security, or general law enforcement. This dynamic minor is administered by the School of Psychology, Sociology and Rural Studies and is available to students majoring in any field at SDSU. The purposes of this program are 1) to provide qualified personnel for all segments of the Criminal Justice system; and 2) to help improve the competence and professional status of existing Criminal Justice personnel. An internship is strongly recommended. Students desiring more information or who are interested in minoring in Criminal Justice should consult with the coordinator of the program no later than the beginning of their junior year.

### Student Learning Outcomes

Graduates with a minor in Criminal Justice will be able to:

- identify and describe the patterns, causes, and types of crime.
- describe the structure of, function of, and interaction among law enforcement, adjudication, and corrections.
- understand, analyze, and communicate criminal justice policies, practices, and procedures.
- describe and apply knowledge of perspectives on prejudice and discrimination as they apply to law enforcement, adjudication, corrections, and juvenile justice.
- develop an understanding of issues that impact the criminal justice system including poverty, inequality, gender, diversity, race, culture, and socialization.
- understand and apply ethical considerations in working with people and communities.
- demonstrate basic communication skills in writing, speaking, and small group work.

### Academic Requirements

Students must have a cumulative GPA of 2.2 to enter the program and a minimum GPA of 2.2 in the minor to complete. Students may select any major, but (*) courses may not be used for both a Criminal Justice Minor and Sociology Major or Minor. Students will need to earn a C grade or better in courses taken for the minor.

### Course Delivery Format

The program offers coursework on campus, on-line, and at attendance centers around the state.

### Requirements for Criminal Justice Minor: 18 Credits

- CJUS 201 - Introduction to Criminal Justice (COM) [SGR #3] Credits: 3
- SOC 351 - Criminology (COM) Credits: 3 *

### Electives

Select from the following. Credits: 12

- CJUS 203 - Policing in a Free Society (COM) Credits: 3
- CJUS 338 - Constitutional Law: Civil Rights and Liberties Credits: 3
- CJUS 334 - Criminal Investigation (COM) Credits: 3
- CJUS 412 - Criminal Prosecution and Defense (COM) Credits: 3
- CJUS/ SOC 416-516 - Drugs and Society Credits: 3

- CJUS 431 - Criminal Law (COM) Credits: 3
- CJUS 436 - Juvenile Justice (COM) Credits: 3
- CJUS 491-591 - Independent Study (COM) Credits: 1-3
- CJUS 492-592 - Topics (COM) Credits: 3
- SOC 325 - Domestic and Intimate Violence (COM) Credits: 3 *
- SOC 354 - Victimology (COM) Credits: 3 *
- SOC 402-502 - Social Deviance (COM) Credits: 3
- SOC 455-555 - Juvenile Delinquency (COM) Credits: 3 *
- SOC 456 - Community Corrections (COM) Credits: 3 *
- SOC 492 - Topics (COM) Credits: 1-3

**Total Required Credits: 18**

## Crop Protection Minor

### Program Coordinator/Contact

David Wright, Department Head
Brent Turnipseed, Assistant Department Head
Hani Ghosheh, Undergraduate Teaching Coordinator
Department of Agronomy, Horticulture, and Plant Science
Raven Precision Agriculture Center 140
605-688-5123 (Department Head, SRPAC 140)
605-688-4450 (Teaching Office, SNP 247)

### Program Information

The Crop Protection minor provides students with knowledge of the general principles of managing insect, disease and weed pests in a variety of situations from pre-plant to post-harvest, and a firm understanding of the environmental consequences of pest control decisions. Individuals who complete this curriculum will be prepared for careers that require an understanding of the management of pests as an important aspect of their responsibilities.

### Student Learning Outcomes

Upon completion of the Crop Protection minor, students will:

- achieve a fundamental understanding of basic Crop Protection principles and practices;
- gain an understanding of the scope, activities, and nomenclature in the field of Entomology and Plant Pathology, and Weed Science;
- demonstrate the ability to effectively communicate (written, listening, and oral) with both scientific and non-scientific audiences;
- be an advocate for responsible and sustainable Crop Protection and Agriculture in society; and
- be a lifelong learner.

### Academic Requirements

The program requires a 2.5 GPA or higher and a grade of C or higher in all coursework for the minor. [1]Can only be used to meet requirements in one section (i.e. PS 407 cannot be a required and an elective credit)

### Course Delivery Format

The program provides curriculum in lecture, laboratory, and field-based learning environments.

### Requirements for Crop Protection Minor: 18 Credits

- PS 223-223L - Principles of Plant Pathology and Lab Credits: 2, 1
- PS 405-405L/505-505L - Entomology and Lab (COM) Credits: 3 [1]
  or PS 407-407L/507-507L - Insect Pest Management and Lab Credits: 2, 1 [1]
- PS 445-445L/545-545L - Weed Science and Lab Credits: 3

### Electives

Select at least nine credits from the following list of courses. Credits: 9

- HO/ PS 329 - Horticultural Pests Credits: 3
- HO/ PS 345 - Non-Chemical Weed Management Credits: 3
- PS 405-405L/505-505L - Entomology and Lab (COM) Credits: 3 [1]
  or PS 407-407L/507-507L - Insect Pest Management and Lab Credits: 2, 1 [1]
- PS 431-531 - Insect Ecology and Biological Control Credits: 3
- PS 433-533 - Field Crop Diseases and Management Credits: 3

**Total Required Credits: 18**

## Dairy Industry Minor

### Program Coordinator/Contact

Joseph Cassady, Interim Department Head
Department of Dairy and Food Science
Alfred Dairy Science Hall 136
605-688-4116

### Program Information

Dairy science is an application of the sciences, engineering and technology, and business for the study of milk production and processing. Dairy Production is the study of production of milk, management of the farm, feeding, breeding and herd health. Dairy Manufacturing is the study of processing and merchandising of milk and milk products. SDSU is unique nationwide in that it offers programs that cover the dairy industry from the farm to product. The Dairy Industry Minor is designed to provide students the knowledge and skills in both the farm and product aspect and thereby enhance their employment opportunities. This will enable employment opportunities in a growing industry. Students will be able to select elective courses based on their interests.

### Student Learning Outcomes

In the Dairy Industry Minor students will:

- Demonstrate a general understanding of dairy farm management and operations.
- Demonstrate a general understanding of dairy plant management and operations.
- Demonstrate a general understanding of milk composition and dairy products.
- Demonstrate the ability to communicate a general understanding of the dairy industry through written reports and oral presentations.

### Academic Requirements

Dairy Production and Dairy Manufacturing majors are not eligible to complete the Dairy Industry Minor.

### Course Delivery Format

The program offers instruction through lecture, discussion, laboratory exercises and hands-on practical training.

### Requirements for Dairy Industry Minor: 18 Credits

- DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
- DS 314 - Dairy Farm Evaluation Credits: 1
  or DS 496 - Field Experience Credits: 3-12 (3 credits required)

### Select from the following

Select from the following. Credits: 12-14

- AS 218 - Survey of Animal Nutrition Credits: 3
- AS 219 - Principles of Animal Nutrition Credits: 3
- DS 202 - Dairy Products Judging Credits: 1
- DS 231 - Dairy Foods Credits: 3
- DS 301-301L - Dairy Microbiology and Lab Credits: 4
- DS 311 - Dairy Cattle Judging Credits: 2
- DS 312-312L - Dairy Cattle Breeding and Evaluation and Lab Credits: 4
- DS 314 - Dairy Farm Evaluation Credits: 1
- DS 321-321L - Dairy Product Processing I and Lab Credits: 5
- DS 322-322L - Dairy Product Processing II and Lab Credits: 5
- DS 400-400L/500-500L - Dairy Chemistry and Analysis and Lab Credits: 5
- DS 401 - Advanced Dairy Products Judging Credits: 1-2
- DS 421-421L - Dairy Plant Management and Lab Credits: 4
- DS 442-542 - Dairy Product and Process Development Credits: 3
- DS 480-480L/580-580L - Dairy Farm Operations I and Lab Credits: 4
- DS 481-481L/581-581L - Dairy Farm Operations II and Lab Credits: 4
- DS 494 - Internship (COM) Credits: 3-12 (3 credits required)
- DS 496 - Field Experience Credits: 3-12 (3 credits required)

**Total Required Credits: 18**

## Dance Minor

### Program Coordinator/Contact

J.D. Ackman, Program Coordinator
School of Performing Arts
Oscar Larson Performing Arts Center 189J, Box 2830
605-688-5188

### Program Information

The dance minor at SDSU was created as a holistic and inclusive minor. Holistic in the nature that the minor embraces many genres of dance to include: social, multi-cultural, creative movement, dance for the musical theatre and jazz, tap, ballet and modern dance techniques. The minor has a strong theory, compositional and improvisational base. The minor is inclusive from the perspective that all students no matter their history or training will find opportunities for growth and transformation in the program.

### Student Learning Outcomes

Students are expected to:

- Composition and Choreography: embody and integrate fundamental elements of movement exploration, enlist compositional devices to create choreographic form and structure, demonstrate the development of an artistic voice, and informed aesthetic sensibility.
- Dance Technique: demonstrate kinesthetic competence in the form of physical clarity, body organization, movement skill and phrasing, exhibit presence in performance through dynamic engagement, musical phrasing and responsivity to others.
- Academic Content: comprehend and enlist historical, anatomic, and pedagogic dance knowledge to support a position, clarify a perspective, or elaborate a thesis; demonstrate the ability to enlist dance knowledge effectively in various arenas to write and speak clearly and accurately about the field.
- Professionalism: exemplify standards of professionalism to include: productive work habits, organizational skills, and effective communication in oral and written forms.

Students should be prepared to:

- Perform in public as dancers,
- Develop visual and aural perceptions,
- Become familiar with and develop competence in a number of dance techniques,
- Become familiar with the historic and cultural context of dance,
- Understand and evaluate the contemporary thinking of dance, and related arts,
- Make informed assessments on the quality of dance works.

### Course Delivery Format

The dance curriculum is delivered in studio, laboratory, discussion, and lecture-based settings.

### Requirements for Dance Minor: 18 Credits

- DANC 130 - Dance Fundamentals Credits: 1
- DANC 131 - Movement 1 Credits: 2
- DANC 135 - Dance Activities Credits: 1 (2 credits required. Take two semesters.)
- DANC 240 - Multicultural Dance Activities Credits: 1
- DANC 241-241L - Creative Movement for Children and Lab Credits: 2
- DANC 420 - Techniques of Teaching Dance Credits: 2
- DANC 430 - Composition and Choreography Credits: 2
- DANC 431 - Dance for the Musical Theatre Credits: 2

### Techniques Electives

Select four credits from the list. Credits: 4

- DANC 230 - Technique 1 Credits: 2
- DANC 231 - Technique 2 Credits: 2
- DANC 330 - Technique 3 Credits: 2
- DANC 331 - Technique 4 Credits: 2

### Total Required Credits: 18

## Data Science Minor

### Program Coordinator/Contact

Kurt Cogswell, Department Head
Department of Mathematics and Statistics
Chicoine Architecture, Mathematics and Engineering Hall 209
605-688-6196

### Program Information

The Data Science minor provides training in the discipline-specific and profession-specific application of data science concepts and methods to students enrolled in a wide variety of programs and majors.

### Student Learning Outcomes

In the Data Science Minor, students will:

- master basic statistical methods.
- master intermediate statistical methods.
- conduct statistical analyses in discipline/profession-specific contexts.
- interpret and report on statistical analyses in discipline/profession-specific contexts.

### Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

### Requirements for Data Science Minor: 18 Credits

- STAT 101 - Introduction to Data Science Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
  or STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
- STAT 442 - Exploratory and Cloud-Based Data Analysis Credits: 3

### Electives

Select nine credits from the following. Credits: 9

- DSCI/ ECON 453-553 - Risk Management - Personal and Business Credits: 3
- ECON 423 - Introduction to Econometrics (COM) Credits: 3
- GEOG 382-382L - Quantitative Research Methods in Geography and Lab Credits: 3
- INFO 101 - Introduction to Informatics [SGR #6] Credits: 3
- POLS 388 - Research Methods Credits: 3
- PSYC 477 - Psychology Testing and Measurement (COM) Credits: 3
- SOC 307 - Research Methods I (COM) Credits: 3
- SOC 308 - Research Methods II (COM) Credits: 3
- STAT 383 - Geospatial Data Analysis Credits: 3
- STAT 410-510 - SAS Programming Credits: 3
- STAT 414-514 - Basic R Programming Credits: 1
- STAT 415-515 - R Programming Credits: 3
- STAT 435-535 - Applied Bioinformatics Credits: 3
- STAT 441-541 - Statistical Methods II Credits: 3
- STAT 445-545 - Nonparametric Statistics (COM) Credits: 3
- STAT 451-551 - Predictive Analytics I Credits: 3
- STAT 453-553 - Applied Bayesian Statistics Credits: 3
- STAT 460-560 - Time Series Analysis (COM) Credits: 3

### Total Required Credits: 18

## Design Studies Minor

### Program Coordinator/Contact

Pat Crawford, Director
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

A minor in Design Studies is a way for students to diversify their education and incorporate design thinking and design skills into their overall academic experience. The minor will allow students in majors outside of the School of Design to take coursework that prepares them to better understand the impact of design. This minor is specifically intended for students outside the School of Design. Students will have the opportunity to earn a minor in a growing field of study that is allied to other design, technical, and communication disciplines.

Design studies teaches design thinking that is core to development strategy employed by many of the world's most successful businesses and organization. Design thinking creates a culture that is focused on the design way of solving problems. It combines creative and critical thinking. This way of thinking can be applied to products, services, and processes or anything that needs to be improved.

### Student Learning Outcomes

Graduates with a minor in Design Studies will have the:

- Ability to develop digital and haptic design methodologies.
- Ability to conceive two-dimensional and three-dimensional design.
- Knowledge of basic creative approaches to solve problems.
- Ability to apply basic strategies for planning and producing design solutions and communicating ideas.

### Academic Requirements

Students who are already design majors (Architecture, Graphic Design, Interior design, Studio Art, and Landscape Architecture) will not eligible for the minor. Students may not use the courses from the minor in Design Studies to complete another minor offered by the School of Design. To count toward the minor, courses must be passed with a minimum grade of "C."

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Design Studies Minor: 18 Credits

- ART 121 - Design I 2D (COM) [SGR #4] Credits: 3
- DSGN 110 - Creative Thinking Credits: 3

### Select from the following

Select at least 12 credits from two prefixes in any combination. Credits: 12

- ARCH 101 - Drawing Architecture Credits: 3
- ARCH 221 - Media Tech I Credits: 1
- ARCH 241 - Construction History [SGR #4] Credits: 3
- ART 111 - Drawing I (COM) [SGR #4] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4] Credits: 3
- GDES 101 - Computer Graphics Credits: 3
- GDES 207 - Interactive Design I Credits: 3
- GDES 216 - Typography Credits: 3
- ID 180 - Introduction to Interior Design Credits: 2
- ID 209 - Human Factors and Behavior Credits: 3
- ID 215 - Interior Design Materials Credits: 3
- LA 101 - Ecology and the Built Landscape Credits: 3
- LA 242 - People and the Environment Credits: 3
- LA 251 - Site Analysis Credits: 4
- GDES 310 - Branding Strategy and Identity Design Credits: 3

### Total Required Credits: 18

## Digital & Social Media Minor

### Program Coordinator/Contact

Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211, Box 2235
605-688-4171

### Program Information

The Digital and Social Media minor is open to students in all fields. It prepares students to effectively create, use, and analyze emergent communication technologies.

### Student Learning Outcomes

Students completing a minor in Digital and Social Media will be equipped to:

- understand concepts and apply theories in the use and presentation of images and information;
- think critically, creatively and independently;
- write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve;
- apply basic numerical and statistical concepts;
- apply current tools and technologies appropriate for the communications professions in which they work, and to understand the digital world.

### Equipment and Supplies

Students are encouraged to purchase a laptop (Apple Mac preferred) and software for the discipline.

### Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

### Requirements for Digital and Social Media Minor: 18 Credits

- MCOM 219 - Social Media Strategies Credits: 3
- MCOM 220-220L - Introduction to Digital Media and Lab (COM) Credits: 3
- MCOM 359-359L - Mobile Media Design and Applications and Lab Credits: 3
- PUBR 411-411L - Media Analytics and Studio Credits: 3

### Electives

Select six credits from the following. Credits: 6

- ADV 314 - Digital Promotions Credits: 3
- CMST 422 - Persuasion (COM) Credits: 3
- GDES 207 - Interactive Design I Credits: 3
- INFO 102 - Data Ethics [SGR #3] Credits: 3
- MCOM 265-265L - Basic Photography and Lab (COM) Credits: 3
- MCOM 434 - Advanced Multiplatform Storytelling (COM) Credits: 3

### Total Required Credits: 18

## Early Childhood Education Minor

### Program Coordinator/Contact

Mary Bowne, Professor/ECE Coordinator
School of Education, Counseling and Human Development
Pugsley Hall 139
605-688-5989

### Program Information

The Early Childhood Education Minor prepares students to promote development of young children in the areas of cognitive, physical, emotional, and social development. Students who complete this academic experience may work with children in various settings including preschool, childcare, before and after school programs, etc.

### Student Learning Outcomes

Standard 1. Promoting child development and learning

1a: Knowing and understanding young children's characteristics and needs, from birth through Age 8.
1b: Knowing and understanding the multiple influences on early development and learning.

Standard 2. Building family and community relationships

2a: Knowing about and understanding diverse family and community characteristics.

Standard 3. Observing, documenting, and assessing to support young children and families

3a: Understanding the goals, benefits, and uses of assessment – including its use in development of appropriate goals, curriculum, and teaching strategies for young children.

Standard 4. Using developmentally effective approaches

4a: Understanding positive relationships and supportive interactions as the foundation of their work with young children.
4b: Knowing and understanding effective strategies and tools for early education, including appropriate uses of technology.

Standard 5. Using content knowledge to build meaningful curriculum

5b: Knowing and using the central concepts, inquiry tools, and structures of content areas or academic disciplines.

Standard 6. Becoming a professional

6b: Knowing about and upholding ethical standards and other early childhood professional guidelines.

### Course Delivery Format

Courses in Early Childhood Education are delivered face to face, online and hybrid (face to face and online combination). All ECE courses have practical applications in field experience settings in childcare and Pre-K-Grade 3.

### Requirements for Early Childhood Education Minor: 18 Credits

- ECE 196 - Field Experience (COM) Credits: 1
- ECE 240 - Child Development I: Prenatal to 2 Credits: 3
- ECE 241 - Child Development II: 3 to 8 Years Credits: 3
- ECE 296 - Field Experience (COM) Credits: 1-3 (1 credit required)
- ECE 321 - Learner Centered Assessment Credits: 3
- ECE 360-360L - Play and Inquiry and Lab Credits: 3, 1
- HDFS 241 - Family Relations Credits: 3

**Total Required Credits: 18**

## Economics Minor

### Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The Economics minor provides a rigorous exploration of modern economic theory. Students can select elective courses based on their interests. This minor will appeal to students pursuing careers in fields such as economics, finance, policy analysis, business analysis, or for future graduate study in economics, business, or related fields.

### Student Learning Outcomes

Graduates will

- be able to use analytical methods to make effective decisions.
- be able to communicate effectively.
- be able to evaluate matters of ethics in the profession and the culture more broadly.
- have the requisite body of knowledge in management and economics.

### Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Economics Minor: 18 Credits

- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- ECON 301 - Intermediate Microeconomics (COM) Credits: 3
  or ECON 302 - Intermediate Macroeconomics (COM) Credits: 3
- ECON Electives (Must be at the 300- or 400-level) (Agricultural Business, Business Economics, and Entrepreneurial Studies majors may not choose ECON 330, ECON 370, or ECON 431 to satisfy ECON prefix requirements) Credits: 6
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
  or STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
  or STAT 382 - Probability Credits: 3

**Total Required Credits: 18**

## Engineering for Precision Agriculture Minor

### Program Coordinator/Contact

Van Kelley, Department Head
Department of Agricultural and Biosystems Engineering
Raven Precision Agriculture Center 136
605-688-5143

### Program Information

The minor in Engineering for Precision Agriculture is appropriate for students interested in preparing for careers with agricultural machinery manufacturers, agricultural service system developers, and service providers. The minor will develop in students the specific skills and understanding required to create new systems that utilize emerging technologies to enhance productivity and sustainability in agriculture.

### Student Learning Outcomes

Students completing the minor must understand how sensors, controls, and machines are combined to form a system that matches inputs to site specific conditions. Specifically students will be able to:

- apply mathematics and engineering science to the analysis of systems for crop and livestock production,
- combine sensor technologies with agronomic decision processes to develop solutions for specific agricultural production systems,
- design systems to control the application of inputs to match spatial agronomic input plans,
- demonstrate the ability to work effectively in an area of precision agricultural systems.

### Course Delivery Format

Competence in Engineering for Precision Agriculture requires both study and practice. Instruction occurs through a combination of traditional classroom methods, laboratory exercises using contemporary engineering technologies, internship/research experiences, and focused design projects.

### Requirements for Engineering for Precision Agriculture Minor: 18 Credits

- ABE 314-314L - Ag Power and Machines and Lab Credits: 4
- EE 315 - Linear Control Systems Credits: 3
  or ME 451 - Automatic Controls Credits: 3

### Internship

Select one of the following. Credits: 1

- ABE 494 - Internship (COM) Credits: 1-6
- EE 494 - Internship (COM) Credits: 1-3
- ME 494 - Internship (COM) Credits: 1-3

### Capstone Design Experience

Select from the following. Credits: 4

- ABE 411 - Design Project III Credits: 2
  and ABE 422 - Design Project IV Credits: 2
- EE 464 - Senior Design Project I (COM) Credits: 2
  and EE 465 - Senior Design Project II (COM) Credits: 2
- ME 478 - Mechanical Systems Design I Credits: 2
  and ME 479-479L - Mechanical Systems Design II and Lab (COM) Credits: 2

### Electives

Credits: 6

- ABE 350-350L - Hydraulic and Pneumatic Systems and Lab Credits: 3
- ABE 464-464L - Monitoring and Controlling Agriculture and Biological Systems and Lab Credits: 2
- CSC 130 - Visual Basic Programming (COM) Credits: 3
  or CSC 150 - Computer Science I (COM) Credits: 3
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- PRAG 440-440L/540-540L - Crop Management with Precision Farming and Lab Credits: 3

**Total Required Credits: 18**

## Engineering Management Minor

### Program Coordinator/Contact

Carrie Steinlicht, Senior Lecturer
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417

### Program Information

The minor in Engineering Management will provide knowledge and skills in production strategy, project management, engineering systems management, and discipline-specific cost analysis for students who will be in technology focused organizations in their future careers. The minor addresses the need to manage resources of people, time, finances, and organizational assets effectively within advanced manufacturing, the built environment, and engineering services sectors of the economy.

### Student Learning Outcomes

It is expected that students completing the Engineering Management Minor will be able to:

- analyze and interpret technical data.
- identify, formulate, and solve broadly defined problems by applying math and/or technical knowledge relevant to the discipline
- demonstrate mastery in communication (written & oral) with a wide range of audiences.

- demonstrate mastery in systems integration using analysis, design/development, and implementation tools.

### Course Delivery Format

Course content is delivered on the Brookings campus in classroom, laboratory, and field-based settings.

### Requirements for Engineering Management Minor: 18 Credits

- CEE 482 - Engineering Administration Credits: 3
  or OM 460-560 - Engineering Economic Analysis Credits: 3
- GE 385 - Introduction to Systems Engineering and Management Credits: 3
- GE 469 - Project Management Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
  or STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3

### Electives

Select six credits from the following. Credits: 6

- BLAW 350 - Legal Environment of Business (COM) Credits: 3
  or CM 473-573 - Construction Law and Contracts Credits: 3
- MNET 367-367L - Production Strategy and Lab Credits: 3
- OM 425 - Production and Operations Management Credits: 3
- OM 462-562 - Quality Management Credits: 3

### Total Required Credits: 18

## English Minor

### Program Coordinator/Contact

Jason McEntee, Department Head
Department of English and Interdisciplinary Studies
Pugsley Hall 301, Box 2218
605-688-5191

### Program Information

The English minor allows students to develop skills in communication, research, critical thinking, and focused creativity. Students can improve their understanding of people and cultural knowledge. Students learn how language works and how to use it effectively in a variety of contexts.

The program is open to students in any major, and can help prepare students for a career in law, public relations, education, politics, advertising, journalism, web marketing, publishing - or any career that requires critical thinking and persuasive writing.

### Student Learning Outcomes

Students will:

- Develop and enhance their abilities to communicate in written English while they will be encouraged to view themselves as engaged, creative and relevant producers of knowledge.
- Develop their literary background as one part of a humanities background which fosters intellectual skills, humanistic understanding, cross-cultural literacy, and aesthetic appreciation.
- Develop their ability to think analytically, speculatively, and imaginatively in ways that are applicable across the disciplines.
- Enhance their ability to employ instructional technology in their writing, learning and research in innovative and creative ways.

### Academic Requirements

To count toward the minor, courses must be passed with a minimum grade of "C."

### Course Delivery Format

The department offers coursework on campus, online, and at attendance centers around the state.

### Requirements for English Minor: 18 Credits

- ENGL 151 - Introduction to English Studies Credits: 3
- ENGL 221 - British Literature I (COM) [SGR #4] Credits: 3
  or ENGL 222 - British Literature II (COM) [SGR #4] Credits: 3
- ENGL 241 - American Literature I (COM) [SGR #4] Credits: 3
  or ENGL 242 - American Literature II (COM) [SGR #4] Credits: 3
- ENGL 283 - Introduction to Creative Writing (COM) [SGR #1] Credits: 3
  or ENGL 284 - Introduction to Criticism (COM) [SGR #1] Credits: 3
- ENGL 379 - Technical Communication (COM) Credits: 3
  or ENGL 383 - Creative Writing (COM) Credits: 3

### Electives

- Select 300-400 level ENGL or LING Electives Credits: 3

### Total Required Credits: 18

## Entrepreneurial Studies Minor

### Program Coordinator/Contact

Barb Heller, Entrepreneurship Coordinator
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

Students selecting any academic major will have the opportunity to increase their knowledge of the skills needed to start, own, and/or operate a business, become a community leader, transfer technology to a merchandisable product, and assist others in entrepreneurial efforts. This minor is designed to give all students the opportunity to earn a better living and to contribute to society via their chosen field (major) by becoming an entrepreneur.

### Student Learning Outcomes

Students earning a minor in Entrepreneurial Studies will be able to:

- Demonstrate the fundamental knowledge, skills, and experience to think entrepreneurially;
- Demonstrate an understanding of the importance of innovative and creative thought processes;
- Demonstrate an understanding of the concepts of economics and management that underlie the innovation process and entrepreneurial business model;
- Demonstrate an understanding of business research and analysis, and to incorporate this in oral and written communication; and
- Demonstrate the capacity to evaluate ethical matters within the context of the discipline.

### Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Entrepreneurial Studies Minor: 18 Credits

- ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
- ENTR 236 - Innovation and Creativity Credits: 3
- ENTR 237 - Entrepreneurship Development Credits: 3
- ENTR 338 - New Venture Creation Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3

### Electives

Select one course from the following. Credits: 3

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 430 - Income Tax Accounting (COM) Credits: 3
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3
- MKTG 474 - Personal Selling (COM) Credits: 3

### Total Required Credits: 18

## Equine Studies Minor

### Program Coordinator/Contact

Carmen Paulson, Instructor
Department of Animal Sciences
Animal Science Complex 116
605-688-5434

### Program Information

The Equine Studies minor is designed for students from all majors who wish to supplement their academic major with studies in equine science, management, and industry trends.

### Student Learning Outcomes

Upon completion of the Equine Studies minor, students will:

- develop the fundamental knowledge of the anatomy, physiology, nutrition, health and functional structure of a horse necessary to successfully own or manage horses for pleasure and/or business,
- demonstrate the ability to identify early signs of disease and lameness,

- determine and manage appropriate diets for various classes of horses,
- manage a herd of broodmares during the breeding season,
- exhibit business knowledge of an equine facility, and
- display horsemanship skills.

### Course Delivery Format

Program faculty and staff engage students in a variety of scholastic settings, including the SDSU Horse Unit, incorporating experiential learning to supplement classroom topics.

### Requirements for Equine Studies Minor: 18 Credits

- AS 104-104L - Introduction to Horse Management and Lab Credits: 3
- AS 105 - Horsemanship Credits: 1
  or AS 110 - Equine Training Credits: 1
- AS 213 - Equine Health and Diseases Credits: 3
- AS 218 - Survey of Animal Nutrition Credits: 3
  or AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3
- AS 370 - Stable Management Credits: 3
  or AS 476-476L - Horse Production and Lab Credits: 3
- AS 494 - Internship (COM) Credits: 1-12 (1 credit required)
  or AS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3 (1 credit required)

### Electives

Select 4 credits from the following (cannot duplicate course credits used above). Credits: 4

- AS 105 - Horsemanship Credits: 1
- AS 110 - Equine Training Credits: 1
- AS 370 - Stable Management Credits: 3
- AS 376 - Performance Horse Management Credits: 2
- AS 389 - Current Issues in Animal Science Credits: 3 (Equine focus section)
- AS 476-476L - Horse Production and Lab Credits: 3
- AS 494 - Internship (COM) Credits: 1-12 (1 credit required)
- AS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3 (1 credit required)

### Total Required Credits: 18

## Events & Facilities Administration Minor

### Program Coordinator/Contact

Kendra Kattelmann, Director
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5161

### Program Information

A minor in Events and Facilities Administration will strengthen students' preparation to work in careers that involve event planning and facilities administration (political events, celebrations, education, promotions, commemorations, trade shows, conferences, exhibitions, and conventions). Students earning this minor will demonstrate leadership characteristics and make decisions based on integrating knowledge of financial, human resources, promotion, and event administration principles.

This minor will benefit students by providing them additional preparation in the field of Events and Facilities Administration. The curriculum provides students with research-based best practices, knowledge, skills, and understanding for planning events and managing facilities where events take place. More specifically, this minor will provide students with a deeper understanding of what it takes to plan and promote successful events, with particular focus on events and facilities administration, facilities management and design, and marketing.

### Student Learning Outcomes

Graduates with a minor in Events and Facilities Administration will:

- have knowledge of the meeting and special events industry.
- develop customer service, human relations, and communications skills.
- demonstrate leadership characteristics and have knowledge and skills to plan, manage, and promote meetings and special events.

### Academic Requirements

Students must earn a "C" or above in required and elective courses in the Events and Facilities Administration Minor.

### Course Delivery Format

The on-campus program involves lecture, discussion, group work, and applied learning experiences.

### Requirements for Events and Facilities Administration Minor: 18 Credits

- HMGT 355 - Events and Facilities Administration Credits: 3
- HMGT 455 - Advanced Events and Facilities Administration Credits: 3
- HMGT 472 - Hospitality Facilities Management and Design Credits: 3
  or RECR 415-515 - Sport and Recreation Facility Management Credits: 3
- HMGT 482 - Hospitality Marketing Credits: 3

### Electives

Select from the following list of courses. Credits: 6

- CA 230 - Consumer Behavior Credits: 3
- CA 430 - Consumer Decision Making Credits: 3
- FSRM 282 - Customer Service Credits: 3
- FSRM 361-361L - Aesthetics and Lab Credits: 3
- HMGT 494 - Internship (COM) Credits: 1-3
- RECR 260 - Fundamentals of Sport and Recreation Leadership Credits: 3
- RECR 440 - Sport and Recreation Administration Credits: 3

### Total Required Credits: 18

## Film Studies Minor

### Program Coordinator/Contact

Cable Hardin, Professor
School of Design
Grove Hall 110A, Box 2802
605-688-4103

### Program Information

As an interdisciplinary program across School of Design, English, and Mass Communication, the Film Studies minor promotes media literacy and critical appreciation/understanding of the media in the world today. Graduates of the program will be more knowledgeable of the audiovisual elements that help to drive an increasingly digital economy. They will not only be more capable of cultural critique in an abstract sense, but better able to understand and manipulate audiovisual imagery in business and other practical contexts.

### Student Learning Outcomes

Film Studies students will:

- learn fundamentals of cinematic language.
- acquire a broader perspective on film and cinematic aesthetics and methods of storytelling, achieved through courses offering wide variety of approaches to filmmaking (international, documentary, experimental, narrative).
- explore the role of film and other media in contemporary American and world society.
- express themselves through filmmaking, achieved through applied courses in film, video, animation, writing, or a combination.
- acquire additional skills in effectively and persuasively presenting their ideas in oral, audiovisual, and written presentations.
- learn to balance theoretical and practical approaches to understanding or manipulating audiovisual imagery as encountered in multiple contexts, both inside the university and in the workplace.

### Course Delivery Format

Faculty deliver program coursework on the campus in Brookings, South Dakota. The courses are both theoretical and practical in nature. The three required courses will lay the foundation for acquiring the vocabulary and theoretical and historical background necessary for understanding film as an art form and as a powerful influence on society. The three additional elective credits will allow students to pursue specialized interests in animation and film production or in film history and aesthetics.

### Requirements for Film Studies Minor: 18 Credits

- ARTH 120 - Film as Art [SGR #4] Credits: 3
  or MCOM 160 - Introduction to Film [SGR #4] Credits: 3
- ENGL 268 - Literature (COM) [SGR #4] Credits: 3
- MCOM 366 - Film Narrative Credits: 3

### Electives

Select from the following list. Credits: 9

- ART 492-592 - Topics (COM) Credits: 1-9 (3 credits required)
- ENGL 268 - Literature (COM) [SGR #4] Credits: 3 (Next Generation Storytelling or Literature and Film on Vietnam)
- ENGL 380 - Futuristic Communications Credits: 3
- ENGL 483-583 - Advanced Creative Writing (COM) Credits: 3 (Screenplay)
- ENGL 492 - Topics (COM) Credits: 1-5 (Screenwriting) (3 credits required)
- FREN 492 - Topics (COM) Credits: 1-3 (3 credits required) (If film-oriented course)
- GDES 203 - Animation Foundations I Credits: 3
- GDES 303 - Animation Foundations II Credits: 3
- GDES 304 - Motion Graphics Credits: 3
- GDES 403 - Intermediate Animation Credits: 3
- GER 492 - Topics (COM) Credits: 2-3 (If film-oriented course) (3 credits required)
- MCOM 219 - Social Media Strategies Credits: 3
- MCOM 331-331L - Video Production and Lab (COM) Credits: 3
- SPAN 492 - Topics (COM) Credits: 1-3 (If film-oriented course) (3 credits required)

**Total Required Credits: 18**

## Financial Counseling Minor

### Program Coordinator/Contact

Axton Betz-Hamilton, Program Leader
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5161

### Program Information

A minor in Financial Counseling will prepare students to pursue careers in the financial planning and financial counseling industry. Courses will provide opportunities for students to apply content knowledge and skills by working with individuals to meet their financial goals and solve financial problems.

### Student Learning Outcomes

Graduates with a minor in Financial Counseling will be able to:

- describe how to gather client information and assist clients in creating action plans.
- demonstrate how to complete financial statements, calculate ratios, and develop spending plans.
- explain how to manage money, credit, and debt.
- discuss consumer protection laws.
- describe financial risk, investment, retirement, and estate planning concepts.

### Course Delivery Method

Students learn through lecture, discussion, and hands-on learning experiences. Case studies are utilized to assist students in applying family financial planning strategies to individualized financial situations.

### Requirements for Financial Counseling Minor: 18 Credits

- CA 345 - Foundations in Financial Management Credits: 3
- CA 350 - Family Financial Management I Credits: 3
- CA 375 - Financial Counseling and Debt Management Credits: 3
- CA 442 - Family Resource Management Lab Credits: 3
- CA 450 - Family Financial Management II Credits: 3
- CA 460 - Financial Counseling Lab Credits: 3

**Total Required Credits: 18**

## Food Safety Minor

### Program Coordinator/Contact

Joseph Cassady, Interim Department Head
Department of Dairy and Food Science
Alfred Dairy Science Hall 136
605-688-4116

### Program Information

A minor in food safety is for students interested in the principles underlying keeping food safe and will be especially helpful for those students interested in working in this aspect of the food industry. Topics covered focus upon microbiology and safety of food as it is manufactured and distributed.

### Student Learning Outcomes

Students who successfully complete the requirements for the Food Safety minor will:

- demonstrate practical skills in the development of HACCP plans for food production and processing institutions
- identify current issues in food safety
- demonstrate a functional knowledge of foods
- identify food pathogens
- demonstrate an understanding of food safety management
- demonstrate skills in the science of risk communication

### Course Delivery Format

Courses in the minor are delivered through lecture, laboratory, and field-based learning experiences.

### Requirements for Food Safety Minor: 18 Credits

- AS 450 - Meat Product Safety and HACCP Credits: 3
  or DS 301-301L - Dairy Microbiology and Lab Credits: 4
- FS 251 - Food Safety and Quality Management Systems Credits: 3
- MICR 311-311L - Food Microbiology and Lab Credits: 4

### Electives

Select from the following. Credits:7-8

- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- AS 445-445L - Value-Added Meat Products and Lab Credits: 3
- AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3
- DS 321-321L - Dairy Product Processing I and Lab Credits: 5
- FS 351-351L - Principles of Food Processing and Lab Credits: 3
- FS 451-451L/551-551L - New Food Product Development and Lab Credits: 4
- FS 495 - Practicum (COM) Credits: 1-6
- HMGT 251 - Foodservice Sanitation Credits: 1
- HSC 445 - Epidemiology Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

**Total Required Credits: 18**

## French Studies Minor

### Program Coordinator/Contact

Marie-Pierre Caquot Baggett, Professor of French
School of American and Global Studies
Wagner Hall 111, Box 2275
605-688-4278

### Program Information

The French minor at SDSU is a valuable option to complement any major, especially in people-centered professions that require constant interaction with a diverse public. The minor offers flexibility, can easily be added to any major, is communication-oriented, and can be earned quickly when combined with a study-abroad or foreign internship experience.

### Student Learning Outcomes

Upon the completion of the French Studies minor students should be able to:

- Speak, read, and write French at the Intermediate-Mid or Intermediate-High level.
- Demonstrate knowledge of and basic skills in intercultural communication and competence.
- Identify the cultural perspectives of the French-speaking world's civilizations and their cultural products, such as literatures, arts, institutions, pop cultures, etc. and compare the cultural frames that determine everyday life in cultures in the French-speaking world and the U.S.

### Academic Requirements

There are no application requirements to enroll in the French Studies minor. However, students with previous knowledge of the language must take the placement test and register for an appropriate course. Additionally, all the courses for the major must be passed with a grade of "C" or better.

### Course Delivery Format

Most courses in the French Studies minor are offered face-to-face on campus. Some upper-division courses are offered as part of the French cooperative

program with NSU and USD and they use different types of distance delivery, including simultaneous television (DDN) and online delivery.

### Requirements for French Studies Minor: 18 Credits

- FREN 102 - Introductory French II (COM) [SGR #4] Credits: 4
- FREN 201 - Intermediate French I (COM) [SGR #4] Credits: 3
- FREN 202 - Intermediate French II (COM) [SGR #4] Credits: 3
- FREN Electives* Credits: 8
  *At least 3 credits must be at the 300- or 400-level; FREN 101 does not count toward the minor.

**Total Required Credits: 18**

## Geographic Information Sciences Minor

### Program Coordinator/Contact

Bob Watrel, Department Head
Department of Geography and Geospatial Sciences
109 Wecota Hall
605-688-4511

### Program Information

Geographic Information Science concerns the use of geographic information and data acquired from satellites and airborne platforms, and from ground based measurements and surveys of human activity and the environment. Geographic Information Science students learn how to work with geospatial data to study relationships, patterns, and trends. In the U.S. the explosion of geospatial data and their increasing use in business, government, and people's everyday lives has led to a growing demand for qualified Geographic Information Science graduates. Geospatial science is developing rapidly, associated with developments in mobile, satellite and airborne remote sensing, computational, and big data technologies.

### Student Learning Outcomes

Upon completion of the minor in Geographic Information Sciences, students will:

- acquire foundational and specialized knowledge in both the physical and human worlds and their interconnectedness at different scales;
- effectively communicate geographical ideas using common media from the discipline (submitted samples might include maps, oral presentations, text, photos, illustrations, flowcharts, tables, graphs, graphics);
- engage in applied learning, laboratory, and/or field experiences;
- demonstrate the ability to collect, organize, analyze, and synthesize information about people, places, and environments in a spatial-temporal context.

### Academic Requirements

Students must earn at least a "C" in each course used to meet the minor requirements.

### Course Delivery Format

The Geographic Information Sciences program includes lecture, discussion, laboratory research, fieldwork, and travel, with limited online coursework.

### Requirements for Geographic Information Sciences Minor: 18 Credits

### Core Requirements

Select four from the following courses. Credits: 12

- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- GEOG 473-473L/573-573L - GIS: Data Creation and Integration and Lab (COM) Credits: 3
- GEOG 474-474L/574-574L - GIS: Vector and Raster Modeling and Lab Credits: 3
- GEOG 475-475L/575-575L - GIS Applications and Lab Credits: 3
- GEOG 483-483L/583-583L - Aerial Remote Sensing and Lab Credits: 3
- GEOG 484-484L/584-584L - Remote Sensing and Lab (COM) Credits: 3

### Electives

Select two of the following courses. Credits: 6

- CEE 225 - Principles of Environmental Science and Engineering Credits: 3
- CSC 300 - Data Structures (COM) Credits: 3
- GEOG 270 - Introduction to Small Unmanned Aircraft Systems Credits: 3
- GEOG 365 - Land Use and Planning Credits: 3
- GEOG 383-383L - Cartography and Lab Credits: 3
- GEOG 384-384L - Advanced Cartography and Lab Credits: 3
- GEOG 415-515 - Environmental Geography and Sustainability Credits: 3
- GEOG 471-571 - Introduction to GIS Programming Credits: 3
- GEOG 476-476L/576-576L - Web GIS and Lab Credits: 3
- GEOG 477-477L/577-577L - Spatial Databases and Lab Credits: 3
- GEOG 485-485L/585-585L - Quantitative Remote Sensing and Lab Credits: 3
- LA 342 - City Planning Credits: 3
- PLAN 471-571 - Principles of State, Regional and Community Planning Credits: 3
- RANG 321 - Wildland Ecosystems Credits: 3

**Total Required Credits: 18**

## Geography Minor

### Program Coordinator/Contact

Bob Watrel, Department Head
Department of Geography and Geospatial Sciences
109 Wecota Hall
605-688-4511

### Program Information

The study of geography is of vital concern to all citizens and provides graduates with numerous career opportunities in business, education, and government. The minor in Geography is designed to be flexible, including general education courses as well as electives to compliment a student's major field of study. The faculty recommends that students take several courses in disciplines closely related to their specific area of interest in geography.

### Student Learning Outcomes

Upon completion of the minor in Geography, students will:

- acquire foundational and specialized knowledge in both the physical and human worlds and their interconnectedness at different scales;
- effectively communicate geographical ideas using common media from the discipline (submitted samples might include maps, oral presentations, text, photos, illustrations, flowcharts, tables, graphs, graphics);
- engage in applied learning, laboratory, and/or field experiences;
- demonstrate the ability to collect, organize, analyze, and synthesize information about people, places, and environments in a spatial-temporal context.

### Academic Requirements

Students must earn at least a "C" in each course used to meet the minor requirements.

### Course Delivery Format

Geography is not only a classroom subject but one that also includes laboratory research, fieldwork, and travel, as well limited online coursework.

### Requirements for Geography Minor: 20 Credits

- GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4
- GEOG 132-132L - Physical Geography: Natural Landscapes and Lab (COM) [SGR #6] Credits: 4
- GEOG 200 - Introduction to Human Geography (COM) [SGR #3] Credits: 3
- GEOG 210 - World Regional Geography (COM) [SGR #3] Credits: 3
- Upper-division courses or substitutions approved by the Department Credits: 6

**Total Required Credits: 20**

## German Minor

### Program Coordinator/Contact

Eckhard Rölz, Professor of German
School of American and Global Studies
Wagner Hall 107, Box 2275
605-688-4276

### Program Information

The German minor at SDSU is a valuable option to complement any major, especially in people-centered professions that require constant interaction with a diverse public. The minor offers flexibility, can easily be added to any major, is communication-oriented, and can be earned quickly when combined with a study-abroad or foreign internship experience.

### Student Learning Outcomes

Upon the completion of the German minor, students should be able to:

- Speak, read, and write German at the Intermediate-Mid or Intermediate-High level.
- Demonstrate knowledge of and basic skills in intercultural communication and competence.
- Identify the cultural perspectives of the German-speaking world's civilizations and their cultural products, such as literatures, arts, institutions, pop cultures, etc. and compare the cultural frames that determine everyday life in German-speaking cultures and the U.S.

### Academic Requirements

There are no application requirements to enroll in the German minor. However, students with previous knowledge of the language must take the placement test and register for an appropriate course. Additionally, all the courses for the minor must be passed with a grade of "C" or better.

### Course Delivery Format

Most courses in the German program are offered face-to-face on campus. Some upper-division courses are offered as part of the German cooperative program with USD and they use different types of distance delivery, including simultaneous television (DDN) and online delivery.

### Requirements for German Minor: 18 Credits

- GER 102 - Introductory German II (COM) [SGR #4] Credits: 4
- GER 201 - Intermediate German I (COM) [SGR #4] Credits: 3
- GER 202 - Intermediate German II (COM) [SGR #4] Credits: 3
- GER Electives* Credits: 8
  *At least 3 credits must be at the 300- or 400-level; GER 101 does not count toward the minor.

### Total Required Credits: 18

## Gerontology Minor

### Program Coordinator/Contact

Erin Lavender-Stott, Assistant Professor
School of Education, Counseling and Human Development
Wenona Hall 202
605-688-5385

### Program Information

The minor in gerontology prepares graduates to work directly with or on behalf of older adults by drawing on coursework from multiple disciplines and collaborating with practitioners in aging-related professions. It may accompany any major, but is especially recommended for students in health science majors and/or students with an interest in human service and medical professions.

### Student Learning Outcomes

Students will be able to:

- Interpret and apply gerontological theories
- Demonstrate effective intergenerational communication skills
- Evaluate and assess environmental demands and individual needs of older adult populations

### Academic Requirements

A grade of "C" or better is required in all courses in the minor. To count for the minor, all Seminar, Topics, or Independent Study coursework must be approved by the Gerontology Coordinator. The topics and credits vary by semester.

### Course Delivery Format

Program coursework is completed on campus and online.

### Requirements for Gerontology Minor: 18 Credits

- GERO 201 - Introduction to Gerontology Credits: 3

### Select from the following

Select from the following electives. The study of Gerontology is from a bio-psycho-social perspective. Thus, the goal is to take electives in each area including general electives, up to 15 credits. Credits: 15

### Biological Area Electives

- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- BIOL 439-539 - Biology of Aging Credits: 3
- NURS 201 - Medical Terminology Credits: 1
- NURS 323 - Introduction to Pathophysiology Credits: 3

### Psychological Area Electives

- GERO 420 - Grief and Loss Credits: 3
- PSYC 324 - Psychology of Aging Credits: 3

### Social Area Electives

- CA 442 - Family Resource Management Lab Credits: 3
- SOC 490-590 - Seminar (COM) Credits: 1-3
- GERO 405 - Issues in Aging Credits: 3
- GERO 410 - Families and Aging Credits: 3
- GERO 415-515 - Intergenerational Issues Credits: 1-3

### General Electives

- HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- HDFS 247 - Human Development III: Adulthood Credits: 3
- GERO 486-586 - Service Learning Credits: 1-3
- GERO 491-591 - Independent Study (COM) Credits: 1-3
- GERO 492-592 - Topics (COM) Credits: 1-3

### Total Required Credits: 18

## Global Studies Minor

### Program Coordinator/Contact

Molly Enz, Professor of French & Global Studies Program Coordinator
School of American and Global Studies
Wagner Hall 109, Box 2275
605-688-6590

### Program Information

The Global Studies program allows students to investigate and evaluate critical global issues, hone verbal and written communication skills, and develop intercultural competence necessary essential in a global marketplace and society. The interdisciplinary global studies minor is designed to educate students in the complexity of the diverse cultural, environmental, political, religious and social interactions that comprise our modern world and to help them find solutions to the complex global challenges of the 21st century.

### Student Learning Outcomes

Global Studies students will:

- Demonstrate a broad understanding of global issues, societies, civilizations, economies, and cultures through an interdisciplinary approach.
- Gain verbal and written communication skills essential in a global marketplace and society.
- Demonstrate knowledge of intercultural competence and effectively bridge cultural differences and commonalities.

### Course Delivery Format

Courses with the prefix GLST are offered face-to-face, with lecture, discussion, and applied learning. Other courses required for the major may also be available via internet.

### Requirements for Global Studies Minor: 18 Credits

- CMST 470 - Intercultural Communication (COM) Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- GEOG 210 - World Regional Geography (COM) [SGR #3] Credits: 3
- GLST 201 - Introduction to Global Studies [SGR #3] Credits: 3
- HIST 112 - World Civilizations II (COM) [SGR #4] Credits: 3
- REL 250 - World Religions (COM) [SGR #4] Credits: 3
- The study of a second language is strongly recommended.

### Total Required Credits: 18

## Graphic Design Minor

### Program Coordinator/Contact

Young Ae Kim, Graphic Design Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

Graphic Design is a knowledge base and skill set that will enhance other degrees by introducing design thinking as a means to solve problems and design as the method to communicate those solutions. Students will also learn how to use design principles, design elements, and the basic technologies needed to begin collaborating with other designers and produce basic design works. The minor

provides direction for student's creative energy while offering them basic skill sets that may be used to achieve collaboration in work force teams. The minor will allow students majoring in Architecture, Interior Design, Landscape Architecture, Studio Art, Advertising, Journalism, Public Relations, and other majors to take coursework to diversify their education and incorporate design thinking and graphic skills into their overall academic experience.

### Student Learning Outcomes

Graduates with a minor in Graphic Design will:

- Understand basic graphic design technologies.
- Develop fluency in the formal graphic design vocabulary including: content, style, structure, and technology to create graphic design solutions
- Apply typographic history, theory and practice to create graphic design solutions.
- Apply user center design principles for creating design solutions.
- Intermediate application of user centered design for creating interactive web design solutions. Includes application of intermediate web-based coding.

### Academic Requirements

Students may not use courses in the Graphic Design minor to complete another minor offered within the School of Design.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Graphic Design Minor: 18 Credits

- GDES 101 - Computer Graphics Credits: 3
- GDES 207 - Interactive Design I Credits: 3
- GDES 216 - Typography Credits: 3
- GDES 310 - Branding Strategy and Identity Design Credits: 3

### Select from the following

Select at least 6 credits from the following. Credits: 6

- ART 111 - Drawing I (COM) [SGR #4] Credits: 3
- ART 121 - Design I 2D (COM) [SGR #4] Credits: 3
- GDES 203 - Animation Foundations I Credits: 3
- GDES 307 - Interactive Design II Credits: 3
- GDES 410 - Data Visualization Design Credits: 3
- GDES 417 - UX and UI Design Credits: 3

**Total Required Credits: 18**

## Health Communication Minor

### Program Coordinator/Contact

Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211, Box 2235
605-688-4171

### Program Information

The Health Communication minor emphasizes knowledge and skills in areas such as patient provider communication, telemedicine, and persuasive health messaging. Students gain familiarity with contemporary health issues and perspectives outside of the communication discipline. The minor provides students with a firm foundation to pursue a career in a variety of health-related fields, building on the central role of communication in the delivery, management, and promotion of health care.

### Student Learning Outcomes

Health Communication students will:

- Articulate the role of communication in the promotion and delivery of health care on individual and community levels.
- Develop communication skills necessary for appropriately and effectively conveying health information across a variety of contexts.
- Understand the impact of community, cultural, psychological, and other forces on health behaviors and decision-making.
- Work closely with a community client to develop, implement, and evaluate a Health Communication project designed to improve community health.

### Course Delivery Format

Faculty deliver program coursework on the main campus in Brookings, South Dakota. This minor requires coursework covering the breadth of Health Communication theories and contexts as well as methods for conducting Health Communication research in the academy and community.

### Requirements for Health Communication Minor: 18 Credits

- CMST 201 - Interpersonal Communication (COM) [SGR #3] Credits: 3
- CMST 422 - Persuasion (COM) Credits: 3
- CMST 440-540 - Health Communication (COM) Credits: 3
- CMST 441-541 - Health Communication Campaigns Credits: 3

### Electives

Select six credits from the list. Choose one HLTH course and one additional course from prefixes ADV, CMST, MCOM, or PUBR. Credits: 6

- ADV 370 - Advertising Principles (COM) Credits: 3
- CMST 401-501 - Advanced Interpersonal Communication (COM) Credits: 3
- CMST 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4 (3 credits required)
- HLTH/ HSC 200 - Integrative Holistic Healthcare Credits: 3
- HLTH/ HSC 443 - Public Health Science Credits: 3
- HLTH 475 - Principles of Community Health Education Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- MCOM 359-359L - Mobile Media Design and Applications and Lab Credits: 3
- PUBR 243 - Public Relations Principles (COM) Credits: 3

**Total Required Credits: 18**

## Health Education Minor

### Program Coordinator/Contact

September Kirby, Program Coordinator
School of Health and Consumer Sciences
Wagner Hall 403, Box 2275A
605-688-5387

### Program Information

A Health Education minor is an interdisciplinary minor offered to any student at South Dakota State University. The minor may be of particular interest for those individuals seeking a health related profession to gain additional content in assessment, planning and implementation of health education programs. The minor can be obtained by completing a required core and set of courses offered across several disciplines.

### Student Learning Outcomes

Graduates with a minor in Health Education will be able to:

- comprehend concepts related to health promotion to enhance health,
- analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors,
- use goal-setting skills to enhance health,
- practice health-enhancing behaviors and avoid or reduce health risks.

### Additional Academic Requirements

A minimum final grade of "C" is required in each course taken in the minor. All students interested in obtaining this minor must obtain written approval from the Coordinator.

### Certification and Licensure

To become certified in neighboring states, additional coursework may be required. Please check with the Coordinator for these details.

### Course Delivery Format

Instruction for the health education minor occurs through face to face and online course delivery methods.

### Requirements for Health Education Minor: 18-20 Credits

- HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- HLTH 220 - Social Determinants of Health Credits: 3
- HLTH 420-520 - K-12 Methods of Health Instruction (COM) Credits: 2
  or HLTH 475 - Principles of Community Health Education Credits: 3
- HLTH 479-479L - Health Promotion Programming and Evaluation and Lab Credits: 2
- NUTR 221 - Survey of Nutrition Credits: 3
  or NUTR 315 - Human Nutrition (COM) Credits: 3
- HLTH 100-100L - Wellness for Life and Lab (COM) Credits: 2

### Select from the following

Select one of the following courses for a minimum of 18 credits.

- HDFS 250 - Development of Human Sexuality Credits: 3
- HLTH 230 - Stress Management for Life Credits: 3
- HLTH 250-250L - Pre-Professional First Aid and CPR and Lab (COM) Credits: 2
- HLTH 364-364L - Emergency Medical Technician and Lab (COM) Credits: 4

**Total Required Credits: 18-20**

## Health Science Minor

### Program Coordinator/Contact

Heidi Mennenga, Interim Associate Dean for Academic Programs
Department of Undergraduate Nursing
Wagner Hall 373
605-688-6153 or 1-888-216-9806 ext. 2

### Program Information

A Health Science minor is an interdisciplinary concentration offered to any undergraduate student at South Dakota State University who completes a minimum of 18 semester hours across disciplines with a required core of course offerings. The purpose of the Health Science minor is to provide an opportunity for students to learn more about health and health care and to become competent in health knowledge, application of public health principles and healthful environments while pursuing other majors in the University.

### Student Learning Outcomes

The outcomes for graduates of the Health Science minor are:

- Apply public health principles, to selected disciplines.
- Implement public health science methods and strategies through work with populations that incorporates principles from the fields of sociology, psychology, and human growth and development.
- Apply basic human health concepts from selected sciences including biology, physiology, behavioral, and mental health.
- Demonstrate an understanding of how environment and ecology affect aggregates and communities by advocating for the needs of people served by public health systems.

### Course Delivery Format

Program coursework is delivered in classrooms, laboratories, online, and in field-based learning experiences depending on the course.

### Requirements for Health Science Minor: 18 Credits

- HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- HLTH/ HSC 212 - Contemporary Health Problems Credits: 2
- HLTH/ HSC 443 - Public Health Science Credits: 3
  or NURS 444-444L - Population-Centered Care and Lab Credits: 3 (Nursing majors only)
- HLTH/ HSC 445 - Epidemiology Credits: 3
- NURS 201 - Medical Terminology Credits: 1

### Electives

Any changes/additions to elective credits must receive prior approval from the Associate Dean of Undergraduate Nursing. Credits: 6

- HDFS 227 - Human Development and Personality I: Childhood Credits: 3
- HDFS 237 - Human Development II: Adolescence Credits: 3
- HDFS 241 - Family Relations Credits: 3
- HDFS 247 - Human Development III: Adulthood Credits: 3
- HDFS 250 - Development of Human Sexuality Credits: 3
- HLTH/ HSC 120 - Community Health Credits: 2
- HLTH/ HSC 200 - Integrative Holistic Healthcare Credits: 3
- HLTH/ HSC 230 - Stress Management for Life Credits: 3
- HLTH 250-250L - Pre-Professional First Aid and CPR and Lab (COM) Credits: 2
  or HLTH 364-364L - Emergency Medical Technician and Lab (COM) Credits: 4
- HLTH/ HSC 302 - Wellness and the Family Credits: 2
- HLTH 350 - Health Education Professional Development Credits: 3
- HLTH/ HSC 402-502 - Rural Healthcare Matters Credits: 3
- HLTH 420-520 - K-12 Methods of Health Instruction (COM) Credits: 2
- HSC/ WMST 260 - Women's Health Issues Credits: 3
- HSC 364 - Next Generation Babies: Ethics and Emerging Technologies of Human Reproduction Credits: 3
- HSC 433-533 - Occupational Health Credits: 3
- PSYC 414 - Drugs and Behavior (COM) Credits: 3
- SOC 250 - Courtship and Marriage (COM) [SGR #3] Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

**Total Required Credits: 18**

## Heavy-Highway Construction Minor

### Program Coordinator/Contact

Suzette Burckhard, Interim Department Head
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417

### Program Information

The minor in Heavy-Highway Construction will provide students an opportunity to deepen their knowledge of transportation infrastructure project management. The minor will prepare students to work for firms who build roads, bridges, and utility installation projects as well as departments of transportation at the state level.

### Student Learning Outcomes

Upon completion of the Heavy-Highway Construction minor, students will be able to:

- have an understanding of heavy construction methods and systems including equipment types, how used, and specialty application.
- apply principles of transportation project management to reduce costs, meet schedule deadlines, and deliver the project to specifications.
- plan production for heavy equipment projects including selecting the appropriate equipment calculating cost and loading factors.

### Course Delivery Format

All courses are offered in traditional face-to-face classroom and lab environments on the SDSU Campus.

### Requirements for Heavy-Highway Construction Minor: 18 Credits

- CM 232 - Cost Estimating Credits: 3
- CM 374 - Heavy Construction Methods and Systems Credits: 3
- CM 443-553 - Construction Planning and Scheduling Credits: 3
- CM 452 - Heavy and Highway Estimating Credits: 3

### Electives

Select from the following. Credits: 6

- CEE 363 - Highway and Traffic Engineering Credits: 3
- CEE 411-411L/511-511L - Asphalt Materials and Mix Design and Lab Credits: 3
- CEE 456 - Concrete Theory and Design (COM) Credits: 3
- CM 400-500 - Risk Management and Construction Safety Credits: 3
- CM 410 - Construction Project Management and Supervision Credits: 3
- CM 473-573 - Construction Law and Contracts Credits: 3

**Total Required Credits: 18**

## History Minor

### Program Coordinator/Contact

Charles Vollan, Associate Professor of History
School of American and Global Studies
West Hall Room 119, Box 510
605-688-4311

### Program Information

Students will find that a History minor can enhance a major program and provide intellectual and technical skills needed for today's workplace. It is also flexible enough so that students can follow their own particular interests. The courses offered prepare students for careers in various professional occupations, and provide a necessary background for graduate work or other specialized training.

### Student Learning Outcomes

History graduates will be able to effectively communicate, research, analyze, interpret, and apply information in various professional contexts.

### Academic Requirements

No grade below a "C" in history courses may be counted toward the minor.

### Course Delivery Format

The program provides courses online and face to face on campus and at various off-campus attendance centers.

### Requirements for History Minor: 18 Credits

- HIST 111 - World Civilizations I (COM) [SGR #4] Credits: 3
  or HIST 121 - Western Civilization I (COM) [SGR #4] Credits: 3
- HIST 112 - World Civilizations II (COM) [SGR #4] Credits: 3
  or HIST 122 - Western Civilization II (COM) [SGR #4] Credits: 3
- HIST 151 - United States History I (COM) [SGR #3] Credits: 3
- HIST 152 - United States History II (COM) [SGR #3] Credits: 3
- 300-400 level History Elective Credits: 6

**Total Required Credits: 18**

## History of Art & Design Minor

### Program Coordinator/Contact

Leda Cempellin, Professor
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

A minor in History of Art and Design provides theoretical and historical strengths in support of the School of Design's existing programs in Architecture (B.F.A.), Graphic Design (B.F.A.), Interior Design (B.F.A.), Studio Art (B.F.A.), and Landscape Architecture (B.L.A.). This minor's multidisciplinary and interdisciplinary structure reflects the School of Design's mission of shared curriculum across disciplines. The minor builds from existing theoretical strengths within the School of Design and further enhances students' awareness of the historical and contemporary manifestations of the concept of "design" across disciplines. The skills students learn in the history of art, including performing extensive research, conceptualization, forming a solid argument, carrying out a complex project requiring extensive time and resilience, can be transferrable to a variety of professions.

### Student Learning Outcomes

As a result of completing the minor in History of Art and Design, students will:

- Gain a broader understanding of the complex intertwining of historical, cultural, social, and political contexts that sparked innovations in the art and design disciplines.
- Evaluate the importance of the art and design disciplines in shaping social life and communication.
- Articulate parallels, intersections and reciprocal influences between art and design disciplines.
- Expand the use of art and design vocabulary.
- Refine written, verbal and conceptualization skills.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for History of Art and Design Minor: 18 Credits

- ARTH 312 - History of Graphic Design (COM) Credits: 3
- ID 341 - History of Interior Design I Credits: 3
- LA 242 - People and the Environment Credits: 3

### Select from the following

Select 9 credits from the following list. Credits: 9

- ARCH 241 - Construction History [SGR #4] Credits: 3
- ARCH 442-542 - History of Ideas Credits: 3
- ARTH 120 - Film as Art [SGR #4] Credits: 3
- ARTH 211 - History of World Art I (COM) [SGR #4] Credits: 3
- ARTH 212 - History of World Art II (COM) [SGR #4] Credits: 3
- ARTH 310 - History of United States Art and Architecture Credits: 3
- ARTH 320 - Modern Art and Architecture Survey Credits: 3
- ARTH 490 - Seminar (COM) Credits: 1-3 (3 credits required)
- ARTH 492 - Topics (COM) Credits: 1-6 (3 credits required)

**Total Required Credits: 18**

## Horticulture Minor

### Program Coordinator/Contact

David Wright, Department Head
Brent Turnipseed, Assistant Department Head
Hani Ghosheh, Undergraduate Teaching Coordinator
Department of Agronomy, Horticulture, and Plant Science
Raven Precision Agriculture Center 140
605-688-5123 (Department Head, SRPAC 140)
605-688-4450 (Teaching Office, SNP 247)

### Program Information

The Horticulture minor is open to students of any major who desire the knowledge and skills for managing fruits, vegetables and landscape plants. Greenhouse facilities and extensive field plots in woody and herbaceous ornamentals, fruit, and vegetables provide students with the opportunity to experience all aspects of plant production and management. This flexible program allows students to plan of study based on career interests and goals.

### Student Learning Outcomes

Upon completion of the Horticulture minor, students will:

- achieve a fundamental understanding of basic horticultural principles and practices: propagation, pest management, production, maintenance, and business practices;
- gain an understanding of the scope, activities, and nomenclature in the field of horticulture and Local Food Production;
- demonstrate the ability to effectively communicate (written, listening, and oral) with both scientific and non-scientific audiences;
- be an advocate for horticulture and agriculture in society; and
- be a lifelong learner.

### Academic Requirements

The minor requires a 2.0 GPA or better in the program's courses.

### Course Delivery Format

Students learn through hands-on and face-to-face learning in lecture, laboratory, and field-based experiences.

### Requirements for Horticulture Minor: 18 Credits

- HO 111-111L - Introduction to Horticulture and Lab Credits: 2, 1
- HO 255-255L - Woody Plants and Lab Credits: 4
  or HO 311-311L - Herbaceous Plants and Lab Credits: 3

### Electives

Select from the following. Credits: 11-12

- HO/ PS 105 - Insects and Society Credits: 3
- HO 210-210L - Turf and Weed Management in Horticulture and Lab Credits: 3
- HO 255-255L - Woody Plants and Lab Credits: 4
- HO 311-311L - Herbaceous Plants and Lab Credits: 3
- HO/ PS 329 - Horticultural Pests Credits: 3
- HO 339 - Arboriculture and Urban Forestry Credits: 3
- HO 411-511 - Fruit Crop Systems Credits: 1-6 (1-3 credits required)
  or HO 444-544 - Vegetable Crop Systems Credits: 1-6 (1-3 credits required)
- HO 413-413L/513-513L - Greenhouse and High Tunnel Management and Lab Credits: 3
- HO 414-414L/514-514L - Plant Propagation and Lab Credits: 3
- HO 416-516 - Landscape Nursery Management Credits: 3
- HO/ PS 434-534 - Local Food Production Credits: 2

**Total Required Credits: 18**

## Human Development & Family Studies Minor

### Program Coordinator/Contact

Carla Anderson, Academic Advisor
School of Education, Counseling and Human Development
Wagner Hall 421
605-688-6145

### Program Information

The minor in Human Development and Family Studies offers students a collection of courses examining the fundamentals of human development through courses exploring family dynamics and relationships. Students pursuing Human Development and Family Studies may choose from a variety of HDFS courses based on their major, interest, and focus. In doing so, they gain knowledge and

experience in the science of human growth and development, human interaction, and family relationships. Graduates work in careers that promote healthy development and positive family functioning across the lifespan, such as: a Social Services Case Worker, Provider at Residential Treatment Center, Youth Organization Worker, Program Director for Youth, Family or Senior Citizen Center.

### Student Learning Outcomes

HDFS students will share a common base of knowledge, skills, and experiences:

- Knowledge and understanding of:
  - developmental stages and processes across the lifespan.
  - family dynamic processes.
  - the multi-directional influences of social contexts and the development of individuals, couples, and families.
  - the interpersonal skills required for an effective helping relationship.
- Skill and ability to:
  - interpret and evaluate current information regarding human and family development.
  - use human development and family theories to understand and explain individual growth and family interaction.
  - plan and evaluate intervention strategies designed to enhance the development of individuals, couples, and families.
- Experiences in:
  - the ranges of settings that human development and family studies professionals inhabit.
  - supervised work in a professional setting.

### Academic Requirements

Students must earn at least a C in all courses for the minor.

### Requirements for Human Development and Family Studies Minor: 18 Credits

Any HDFS courses may be used to complete the minor. Suggested courses include (but are not limited to):

- HDFS 141 - Individual and the Family [SGR #3] Credits: 3
- HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- HDFS 227 - Human Development and Personality I: Childhood Credits: 3
- HDFS 237 - Human Development II: Adolescence Credits: 3
  or EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- HDFS 241 - Family Relations Credits: 3
- HDFS 247 - Human Development III: Adulthood Credits: 3
- HDFS 250 - Development of Human Sexuality Credits: 3
- HDFS 410-510 - Parenting Credits: 3

**Total Required Credits: 18**

## Human Resources Minor

### Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The minor in Human Resources will provide a focus to help students who are interested in building their knowledge base and skills in the primary areas of human resources including employee recruitment, retention, training, and compensation. The coursework focuses on issues related to the effective management of human resources in public agencies, businesses, and non-profit organizations. It integrates knowledge from sociology, human resources, business, and psychology.

### Student Learning Outcomes

Graduates with a minor in Human Resources will be able to:

- explain the interdisciplinary nature of the study of work and labor relations;
- describe how social forces and employment law shape work, industry, and workers' lives;
- comprehend the nature, aspects, and theories of organizational culture as they relate to job design, workplace planning, and the strategic management of human resources;
- apply theories and practices to the solution of problems related to the recruitment, selection, training, development, and compensation of employees;
- evaluate modern approaches to outcomes measurement and performance management; and
- value the importance of diversity and ethical decision making in the workplace.

### Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

### Course Delivery Format

The program offers courses on campus and online.

### Requirements for Human Resources Minor: 18 Credits

- BLAW/ ECON 467-567 - Labor Law and Economics Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- MGMT 464 - Organizational Behavior (COM) Credits: 3

### Electives

Select two courses from the following. Credits: 6

- PSYC 331 - Industrial and Organizational Psychology (COM) Credits: 3
- PSYC 492 - Topics (COM) Credits: 1-4 (3 credits required) (Organizational Development)
- SOC 283 - Working with Diverse Populations Credits: 3
- SOC 350 - Race and Ethnic Relations (COM) Credits: 3
- SOC 353 - Sociology of Work Credits: 3
- SOC 433-533 - Leadership and Organizations Credits: 3
  or LDR 435 - Organizational Leadership and Team Development Credits: 3

**Total Required Credits: 18**

## Informatics Minor

### Program Coordinator/Contact

Siddharth Suryanarayanan, Department Head
Department of Electrical Engineering and Computer Science
Daktronics Engineering Hall 214
605-688-4526

### Program Information

The minor provides students with a strong background in general informatics combined with advanced application coursework in their specific major. Earning the minor will prepare graduates for data warehousing and quantitative data interpretation through mathematical/statistical model and algorithm development in a variety of business, non-profit, and governmental sectors.

### Student Learning Outcomes

Graduates with an Informatics Minor will be able to demonstrate a knowledge of:

- basic informatics and programming skills;
- the social and ethical aspects of informatics; and
- applied informatics specific to the student's major.

### Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings.

### Requirements for Informatics Minor: 18 Credits

- INFO 101 - Introduction to Informatics [SGR #6] Credits: 3
- INFO/ PHIL 102 - Data Ethics [SGR #3] Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

### Electives

Select at least 9 credits from one of the elective clusters below:

### In the Biological Sciences:

- BIOL 373 - Evolution (COM) Credits: 3
- HSC 445 - Epidemiology Credits: 3
- MICR 448-548 - Molecular and Microbial Genetics Credits: 4
- STAT 435-535 - Applied Bioinformatics Credits: 3

### In the Geographic Sciences:

- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3
- GEOG 473-473L/573-573L - GIS: Data Creation and Integration and Lab (COM) Credits: 3

- GEOG 483-483L/583-583L - Aerial Remote Sensing and Lab Credits: 3
- GEOG 484-484L/584-584L - Remote Sensing and Lab (COM) Credits: 3

**In the Behavioral and Social Sciences:**

- ECON 423 - Introduction to Econometrics (COM) Credits: 3
- PSYC 477 - Psychology Testing and Measurement (COM) Credits: 3
- SOC 462-562 - Population Studies (COM) Credits: 3
- SOC 494 - Internship (COM) Credits: 1-12 (3 credits required)
- STAT 410-510 - SAS Programming Credits: 3

**Total Required Credits: 18**

## Journalism Minor

### Program Coordinator/Contact

Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211, Box 2235
605-688-4171

### Program Information

A minor in Journalism is open to students in all fields. It provides students with basic skills in written and visual communication and more advanced skills in an area of emphasis.

### Student Learning Outcomes

Students completing a minor in Journalism will:

- understand concepts and apply theories in the use and presentation of images and information;
- demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness and diversity;
- think critically, creatively and independently;
- write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve;
- apply current tools and technologies appropriate for the communications professions in which they work, and to understand the digital world.

### Academic Requirements

Journalism minors must have grades of "C" or better in the program's courses.

### Equipment and Supplies

Students are encouraged to purchase a laptop (Apple Mac preferred) and software appropriate for the discipline.

### Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

### Requirements for Journalism Minor: 18 Credits

- MCOM 210-210L - Basic Newswriting and Lab (COM) Credits: 3
- MCOM 220-220L - Introduction to Digital Media and Lab (COM) Credits: 3
- MCOM Electives (200- to 400-Level Course) Credits: 3

### Electives

Select nine credits from one of the following emphases. Credits: 9

### Broadcast Emphasis

- MCOM 331-331L - Video Production and Lab (COM) Credits: 3
- MCOM 333-333L - Broadcast News Reporting and Lab Credits: 3
- MCOM 433-433L - Advanced Broadcast News Reporting and Lab Credits: 3

### Design Emphasis

- GDES 207 - Interactive Design I Credits: 3
- MCOM 311-311L - News Editing and Editing Lab (COM) Credits: 3
- MCOM 359-359L - Mobile Media Design and Applications and Lab Credits: 3

### Photography Emphasis

- MCOM 265-265L - Basic Photography and Lab (COM) Credits: 3
- MCOM 266-266L - Photojournalism and Studio (COM) Credits: 3
- MCOM 365-365L - Advanced Photography and Lab (COM) Credits: 3

### Writing Emphasis

- MCOM 336 - Feature Writing Credits: 3
- MCOM 438-438L - Public Affairs Reporting and Lab Credits: 3
- PUBR 345 - Public Relations Writing Credits: 3

**Total Required Credits: 18**

## Land Valuation & Rural Real Estate Minor

### Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The Land Valuation and Rural Real Estate minor will prepare students in the application of skills in economics, finance, mathematics, and law to the issues associated with land and real estate property ownership, development and transfer. This minor will benefit students pursuing a broad portfolio of careers in bank lending, real estate investment trusts, farm and estate succession planning, insurance, construction firm management, economic development and planning, as well as providing specific preparation towards appraisal or real estate certification and licensing.

### Student Learning Outcomes

Students earning a minor in Land Valuation and Rural Real Estate will be able to:

- Verify legal descriptions of real estate properties in public records.
- Provide market analysis of comparable nearby properties to establish value comparisons and to provide alternative solutions to assessing a property's value where similar properties do not exist.
- Prepare and maintain data on each property, including background research, observations, methods used in estimating the property's value, location, and lease records.
- Apply math and finance formulas such as discounted cash flow analysis, financial ratios and returns to the equity and mortgage, lease returns, gross and net income multipliers, along with direct and yield rates of return, regression analysis, and basic statistics, etc.
- Ability to articulate methods of research and analysis in producing a final report.

### Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Land Valuation and Rural Real Estate Minor: 19 Credits

- AGEC/ BLAW 352 - Agricultural Law Credits: 3
  or AGEC/BLAW 462-562 - Environmental Law Credits: 3
  or BLAW 351 - Business Law (COM) Credits: 3
- AGEC 473-473L - Rural Real Estate Appraisal and Lab Credits: 2, 1
- BLAW 433 - Real Estate (COM) Credits: 3
- BLAW 453 - Principles and Procedures of Valuation Credits: 4

### Select from the following

Select one of the following emphasis areas. Credits: 6

### Agricultural and Rural

- AGEC 271 - Farm and Ranch Management Credits: 3
- AGEC 471-571 - Advanced Farm & Ranch Management Credits: 3

### Land Use Planning

- GEOG 365 - Land Use and Planning Credits: 3
- GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3

### Rural Construction

- CM 232 - Cost Estimating Credits: 3
- CM 485-485L/585-585L - Site Development and Feasibility Analysis and Lab Credits: 3

### Rural Finance and Banking

- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- FIN 310 - Business Finance (COM) Credits: 3

**Total Required Credits: 19**

## Leadership & Management of Nonprofit Organizations Minor

### Program Coordinator/Contact

Kimberly Gustafson, Lecturer
School of Health and Consumer Sciences
Wagner Hall 409, Box 2275A
605-688-5161

### Program Information

The Leadership and Management of Nonprofit Organizations minor prepares students with opportunities to increase their abilities and skills in the work of leadership to enhance nonprofit organizations.

Students may earn the minor without completing the certification.

### Student Learning Outcomes

Graduates with a minor in Leadership and Management of Nonprofit Organizations will:

- Apply the knowledge of fundamental nonprofit management terms, theories, and skills.
- Demonstrate the ability to function as an effective member of a team.
- Demonstrate respect and understanding towards diverse cultures and beliefs of individuals and communities.
- Explain the importance of and show evidence of ethical and professional behaviors.
- Design, implement, and evaluate projects for a variety of audiences.
- Demonstrate effective written and oral communication skills to appropriate audiences.

### Accreditation, Certification, and Licensure

National Certification through the Nonprofit Leadership Alliance.

### Course Delivery Format

Certification requirements are met through course work, co-curricular involvement, and an internship. National Certification through the Nonprofit Leadership Alliance in nonprofit management requires an additional 300-hour internship with a nonprofit organization.

### Requirements for Leadership and Management of Nonprofit Organizations Minor: 18 Credits

- LMNO 201 - Introduction to Leadership and Management of Nonprofit Organizations Credits: 3
- LDR 410 - Leadership: Senior Seminar Credits: 1
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- LDR 496 - Field Experience (COM) Credits: 2 (Leadership in Action)

### Electives

Students may choose no more than one course per competency area for a total of 9 elective credits. Credits: 9

### Competency 1: Understanding Individuals and Groups

- CA 321 - Consumer Needs and Program Funding Credits: 3
- HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- HDFS 237 - Human Development II: Adolescence Credits: 3
- HDFS 247 - Human Development III: Adulthood Credits: 3
- HDFS 255 - Program Design, Implementation and Evaluation Credits: 3
- SOC 271 - Social Work Skills and Methods I Credits: 3
- SOC 382 - The Family (COM) Credits: 3

### Competency 2: Business

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- BADM 360 - Organization and Management (COM) Credits: 3
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3
- POLS 320 - Public Administration (COM) Credits: 3

### Competency 3: Marketing/Advertising

- ADV 314 - Digital Promotions Credits: 3
- ADV 370 - Advertising Principles (COM) Credits: 3
- PUBR 243 - Public Relations Principles (COM) Credits: 3
- PUBR 345 - Public Relations Writing Credits: 3

### Competency 4: Human Resource Management

- HRM 460 - Human Resource Management (COM) Credits: 3
- PSYC 331 - Industrial and Organizational Psychology (COM) Credits: 3
- SOC 353 - Sociology of Work Credits: 3

### Total Required Credits: 18

## Leadership Minor

### Program Coordinator/Contact

Kimberly Gustafson, Lecturer
School of Health and Consumer Sciences
Wagner Hall 409, Box 2275A
605-688-5161

### Program Information

The undergraduate leadership minor is an interdisciplinary and multi-dimensional program that allows students to explore and experience multiple frameworks of leadership. The minor prepares students for real-life leadership experiences, both on-campus and in larger global communities. Leadership development will relate to student aspirations as they transition from the on-campus extracurricular services to professions, communities, and public and private organizations. By completing the minor, students will acquire skills and abilities to serve as competent leaders as they transition to life after graduation.

### Student Learning Outcomes

Graduates with a minor in Leadership will:

- Apply the knowledge of fundamental leadership terms, theories, and skills.
- Demonstrate the ability to function as an effective member of a team.
- Demonstrate respect and understanding towards diverse cultures and beliefs of individuals and communities.
- Explain the importance of and show evidence of ethical and professional behaviors.
- Design, implement, and evaluate projects for a variety of audiences.
- Demonstrate effective written and oral communication skills to appropriate audiences.

### Course Delivery Format

The on-campus program involves lecture, discussion, group work, and applied learning experiences.

### Requirements for Leadership Minor: 18 Credits

- LDR 210 - Foundations of Leadership Credits: 3
- LDR 310 - Leadership in Context (COM) Credits: 3
- LDR 410 - Leadership: Senior Seminar Credits: 1
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- LDR 496 - Field Experience (COM) Credits: 2 (Leadership in Action)

### Electives

Select one course from each competency. Credits: 6

### Communication Competency

Select 3 credits from the list.

- CMST 201 - Interpersonal Communication (COM) [SGR #3] Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
- CMST 222 - Argumentation and Debate (COM) [SGR #2] Credits: 3
- CMST 410-510 - Organizational Communication (COM) Credits: 3
- CMST 434 - Small Group Communication (COM) Credits: 3

### Ethics Competency

Select 3 credits from the list.

- BIOL/ PHIL 383 - Bioethics (COM) Credits: 4
- GLST/ PHIL 480 - Ethics of Globalization Credits: 3
- PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3
- PHIL 320 - Professional Ethics (COM) Credits: 3
- REL/ PHIL 454 - Environmental Ethics (COM) Credits: 3

### Total Required Credits: 18

## Legal Studies Minor

### Program Coordinator/Contact

Lisa Hager, Assistant Professor of Political Science and Legal Studies Coordinator
School of American and Global Studies
West Hall Room 216, Box 510
605-688-4311

### Program Information

The purpose of the Legal Studies minor is to provide the student with foundational skills meant to better their performance on the LSAT and in law school. The curriculum is based off of the standards set forth by the American Bar Association. The minor pairs well with any major and law schools encourage a wide variety of backgrounds (e.g., political Science, global studies, etc), depending on the future career interests of the student. The formal academic training for law includes, with few exceptions, a bachelor's degree and three years of study in law school to earn a Juris Doctorate.

### Law School Admissions Test

All law schools require the Law School Admissions Test, and most pre-law students take it in June between the junior and senior year or during the undergraduate senior year. It is a nationwide, half-day test of general aptitude for undertaking law studies and for writing ability. Students are encouraged to contact the Legal Studies Coordinator for more information on the LSAT and law schools of interest early in their academic career.

### Student Learning Outcomes

Graduates with a minor in Legal Studies will be able to:

- demonstrate a basic familiarity with the American political and legal systems, especially the constitution.
- demonstrate proficiency in clear and persuasive speech and writing.
- understand the formal study of argumentation, including forms of logic, inductive and deductive reasoning, proofs, refutations and fallacies.
- demonstrate an ability to think and read critically.
- demonstrate financial literacy, either basic economic concepts or basic accounting principles and procedures.
- demonstrate a familiarity with the law as it relates to one's field of interest.
- demonstrate an understanding of social and ethical issues as well as the promotion of justice.

### Academic Requirements

No grade below a "C" in political science courses may be used to fulfill requirements for the Legal Studies Minor.

### Course Delivery Format

The program offers courses on campus.

### Requirements for Legal Studies Minor: 18 Credits

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
  or ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3
  or ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3
- PHIL 200 - Introduction to Logic (COM) [SGR #4] Credits: 3
- PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3
  or PHIL 320 - Professional Ethics (COM) Credits: 3
- POLS 225 - Introduction to Moot Court Credits: 3
  or CMST 222 - Argumentation and Debate (COM) [SGR #2] Credits: 3
- POLS 330 - Civil Rights and Liberties Credits: 3
  or POLS 430 - Constitutional Law (COM) Credits: 3

### Electives

Select from the following. Credits: 3

- AGEC 462-562 - Environmental Law Credits: 3
- AGEC 352 - Agricultural Law Credits: 3
- AIS 462 - Formation of Federal Indian Policy Credits: 3
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- CJUS 201 - Introduction to Criminal Justice (COM) [SGR #3] Credits: 3
- CJUS 431 - Criminal Law (COM) Credits: 3
- CM 473-573 - Construction Law and Contracts Credits: 3
- CMST 422 - Persuasion (COM) Credits: 3
- ECON 467-567 - Labor Law and Economics Credits: 3
- HLTH 451-551 - Public Health Law Credits: 3
- MCOM 430-530 - Media Law (COM) Credits: 3
- POLS 429 - Courts and Judicial Politics (COM) Credits: 3
- SOC 150 - Social Problems (COM) [SGR #3] Credits: 3
- SOC 240 - The Sociology of Rural America (COM) [SGR #3] Credits: 3

**Total Required Credits: 18**

## Management Minor

### Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

### Program Information

The Management minor is designed to produce professionals who are able to manage resources in organizations. The minor provides core competencies in management, business finance, management information systems, and human resources management with additional discipline-specific applied management courses.

### Student Learning Outcomes

Graduates will

- be able to use analytical methods to make effective decisions.
- be able to communicate effectively.
- be able to evaluate matters of ethics in the profession and the culture more broadly.
- have the requisite body of knowledge in management and economics.

### Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Management Minor: 18 Credits

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3

### Electives

Select twelve credits. Students majoring in Agricultural Business, Business Economics, or Entrepreneurial Studies must choose all four electives from starred courses. Credits: 12

- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- ACCT 320 - Cost Accounting (COM) Credits: 3 *
- AGEC 320 - Ethics in Agribusiness Credits: 3 *
  or BADM/ BLAW 457-557 - Business Ethics (COM) Credits: 3 *
- CSC/ MGMT 325 - Management Information Systems (COM) Credits: 3
- DSCI/ ECON 453-553 - Risk Management - Personal and Business Credits: 3 *
- FIN 310 - Business Finance (COM) Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT 464 - Organizational Behavior (COM) Credits: 3 *
- MGMT 482 - Business Policy and Strategy (COM) Credits: 3 *

**Total Required Credits: 18**

## Marketing Minor

### Program Contacts/Coordinators

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
605-688-4141

Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211
605-688-4171

### Program Information

The Marketing minor represents a multi-department collaborative effort to provide students with supplementary training in both the qualitative and quantitative aspects of marketing. The minor will benefit students pursuing careers in marketing, business, sales, journalism, hospitality management, and advertising, among other fields.

### Academic Requirements

A minimum GPA of 2.0 is required in the minor.

### Student Learning Outcomes

Students earning a minor in Marketing will be able to:

- Understand the role of consumer behavior in purchasing decisions and the forces that influence choice;
- Demonstrate an understanding of economic and management concepts as they apply to the triple bottom line in marketing;
- Demonstrate knowledge of technological and global factors affecting marketing practices; and
- Demonstrate the capacity to evaluate ethical matters within the context of the discipline.

### Course Delivery Format

The program offers courses on campus, with limited online coursework, usually during the summer.

### Requirements for Marketing Minor: 18 Credits

- ADV 370 - Advertising Principles (COM) Credits: 3
- ADV 472 - Research and Planning (COM) Credits: 3
  or MKTG 476-576 - Marketing Research (COM) Credits: 3
  or PUBR 472 - Research and Planning (COM) Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3

### Electives

Select 9 credits from the following. Credits: 9

- ADV 314 - Digital Promotions Credits: 3
- ADV 476-576 - Global and Multicultural Advertising Credits: 3
- FSRM 462 - Retail Management Credits: 3
- CA 230 - Consumer Behavior Credits: 3
- HMGT 482 - Hospitality Marketing Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3
- MKTG 474 - Personal Selling (COM) Credits: 3
- PUBR 243 - Public Relations Principles (COM) Credits: 3
- RECR 411 - Sports Marketing (COM) Credits: 3

### Total Required Credits: 18

## Mathematics Minor

### Program Coordinator/Contact

Kurt Cogswell, Department Head
Department of Mathematics and Statistics
Chicoine Architecture, Mathematics and Engineering Hall 209
605-688-6196

### Program Information

The Mathematics minor provides an outstanding educational experience to students from any major who are interested in the wide range of excellent career or graduate school choices available in the mathematical sciences. The flexible, specialized paths are available lead to many exciting and challenging career options.

### Student Learning Outcomes

Upon completion of the Mathematics minor, students should be able to:

- demonstrate competence in core undergraduate applied mathematics areas.
- demonstrate competence in a range of advanced mathematical areas.
- communicate the results of mathematical analysis clearly and succinctly.

### Academic Requirements

- STAT 281 may not be used for the Mathematics Minor.
- A grade of "C" or better is required in each course.

### Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

### Requirements for Mathematics Minor: 18 Credits

- MATH 125 - Calculus II (COM) [SGR #5] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5] Credits: 4
  or MATH 355 - Methods of Teaching Mathematics Credits: 4
- MATH 250 - Introduction to Linear Algebra and Proof Credits: 3
  or MATH 253 - Logic, Sets, and Proof Credits: 4
  or MATH 361 - Modern Geometry (COM) Credits: 3
  or MATH 450 - History of Mathematics (COM) Credits: 3
- MATH/STAT Electives ** 200 level or above (excluding STAT 281) Credits: 7

** It is recommended that students in the education program choose 6 of these credits to be MATH 261 - Geometry for Teachers and either MATH 371 - Technology for STEM Educators or MATH 433 - Capstone: Mathematics Education.

### Total Required Credits: 18

## Meat Science Minor

### Program Coordinator/Contact

Judson "Kyle" Grubbs, Assistant Professor
Department of Animal Sciences
Animal Science Complex 116
605-688-5451

### Program Information

The Meat Science minor is designed for students seeking careers associated with the meat and food industry including research and product development, quality assurance, food safety, fresh meat processing, meat product manufacturing, and government service. Students learn product characteristics, product development, production, food safety, and marketing of fresh and processed meats. Completion provides excellent preparation for a career in the meat and food industry, and also provides an excellent background for graduate study in either meat or food science.

### Student Learning Outcomes

Students completing a Meat Science minor will:

- describe the various aspects of the meat and livestock industries and how they interrelate and function, including knowledge of how pre-harvest factors impact food safety and product quality;
- understand the global role of meat products in human health and nutrition and livestock production, and contribute to problem-solving food demands in the 21st century;
- apply knowledge of the basic physical and chemical components of meat and their influence on specific attributes of meat and meat products to development of new and improvement of existing meat products;
- describe the scientific and technological procedures involved in the processing of meat animals and preservation of meat products;
- describe the food safety issues as related to the meat industry, and apply the principles of Hazard Analysis Critical Control Points; and
- recognize the role of today's consumer in the meat and livestock industries.

### Course Delivery Format

Program faculty will engage students in a variety of academic and experiential learning experiences, including numerous activities in the SDSU Meats Laboratory.

### Requirements for Meat Science Minor: 18 Credits

- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- AS 441-541 - Advanced Meat Science Credits: 3
  or AS 450 - Meat Product Safety and HACCP Credits: 3
- AS 445-445L - Value-Added Meat Products and Lab Credits: 3
- AS 494 - Internship (COM) Credits: 1-12 (1-3 credits required)
  or AS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3 (1-3 credits required)

### Electives

Select from the following. Credits: 6-8

- AS 200 - Introduction to Meat Judging Credits: 1-2
- AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 3
- AS 400 - Judging Team Credits: 1-2
- AS 441-541 - Advanced Meat Science Credits: 3
- AS 450 - Meat Product Safety and HACCP Credits: 3
- AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3
- FS 251 - Food Safety and Quality Management Systems Credits: 3
- FS 341-341L - Applied Food Science and Lab Credits: 4
- FS 351-351L - Principles of Food Processing and Lab Credits: 3
- FS 451-451L/551-551L - New Food Product Development and Lab Credits: 4

- HMGT 251 - Foodservice Sanitation Credits: 1
- MICR 311-311L - Food Microbiology and Lab Credits: 4

**Total Required Credits: 18**

## Mechatronics Technology Minor

### Program Coordinator/Contact

Byron Garry, Associate Professor
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417

### Program Information

The Mechatronics Technology Minor is designed for students in applied technology and science fields the opportunity to learn more about the underlying theory and use of electronic devices and the configuration of electronic systems. The minor will provide technical knowledge for the growing number of persons interested in Precision Ag as electronic devices, sensors, and systems underlie the technology. The Mechatronics Technology Minor is designed for Maker Movement technology enthusiasts and entrepreneurs who develop sophisticated devices and gadgets for sale or open-source distribution.

### Student Learning Outcomes

Upon completion of the Mechatronics Technology Minor, students will be able to:

- Understand theory and apply the concepts of voltage, current, resistance, power, and energy in circuits in lab assignments;
- Demonstrate the proper use of electronic test instruments and troubleshoot devices and circuits using root cause analysis;
- Demonstrate the ability to use software commands in the control of hardware/software used in electronic systems;
- Apply knowledge of software and hardware systems used in industrial and electronics environments; and,
- Collect data and information from experiments and other sources, critically analyze the information, and propose solutions suitable for the situation.

### Course Delivery Format

The program provides coursework on the Brookings campus in classroom, laboratory, and field-based settings.

### Requirements for Mechatronics Technology Minor: 18 Credits

- AST 412-412L - Fluid Power Technology and Lab Credits: 3
  or ET 232-232L - Digital Electronics and Microprocessors and Lab Credits: 3
- AST 494 - Internship (COM) Credits: 1-12 (2 credits required)
  or AST 497 - Cooperative Education (COM) Credits: 1-12 (2 credits required)
  or ET 497 - Cooperative Education (COM) Credits: 1-8 (2 credits required)
  or OM 494 - Internship (COM) Credits: 1-3 (2 credits required)
- ET 210-210L - Introduction to Electronic Systems Credits: 4
- ET 240 - Techniques of Servicing Credits: 3
  or PRAG 304-304L - Electrical Diagnostics for Farm Machinery and Lab Credits: 3
- ET 330-330L - Microcontrollers and Networks and Lab Credits: 3
  or ET 451-451L - Industrial Controls and PLCs and Lab Credits: 3
- ET 370-370L - Data Acquisition and Lab Credits: 3

**Total Required Credits: 18**

## Mental Health Services Minor

### Program Coordinator/Contact

Elizabeth Koob, Professional Advisor
School of Psychology, Sociology and Rural Studies
Hansen Hall 102
605-688-6296

### Program Information

The minor in Mental Health Services will provide a focus on the field of mental health counseling which will aid students in developing skills to prepare for work in a variety of settings including mental/behavioral health centers, addictions rehabilitation centers, assisted living facilities/retirement homes, correctional facilities, and residential group homes/halfway houses.

### Student Learning Outcomes

Upon completing the minor in Mental Health Services, graduates will:

- apply the biopsychosocial foundations of behavior and evidence-based counseling approaches to diverse individuals and groups.
- understand and apply the major categories and typical signs and symptoms of mental disorders.
- demonstrate knowledge of and perform in accordance with the main ethical, legal, clinical, and professional issues involved in the helping professions.
- demonstrate knowledge of the leading counseling/psychotherapy systems and the major appropriately apply therapeutic interventions of these systems.
- demonstrate multicultural sensitivity and awareness of special treatment needs of diverse populations in American society.
- demonstrate effective and professional oral and written communication skills.

### Academic Requirements

Psychology does not permit the double use of courses in its major with a minor. Must have a "C" or better in all courses for the minor.

### Requirements for Mental Health Services Minor: 18 Credits

- CHRD 353 - Ethics and the Helping Professions Credits: 3
- CHRD 451 - Individual and Group Counseling Credits: 3
- PSYC 357 - Psychological Therapies Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3

### Select from the following

Select one of the following. Credits: 3

- CHRD 452 - Addictions Rehabilitation Credits: 3
- CHRD 453 - Family Therapy Credits: 3
- PSYC 358 - Behavior Modification Credits: 3
- SOC 377 - Documentation in Practice Settings Credits: 3

### Select from the following

Select one of the following. Credits: 3

- CHRD 351 - Medical and Vocational Case Management (COM) Credits: 3
- PSYC 414 - Drugs and Behavior (COM) Credits: 3
- PSYC 427 - Child Psychopathology Credits: 3
- SOC 283 - Working with Diverse Populations Credits: 3

**Total Required Credits: 18**

## Microbiology Minor

### Program Coordinator/Contact

Radhey Kaushik, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141

### Program Information

The Microbiology minor is open to all majors and is especially appropriate for students majoring in the biological or agricultural sciences, physical sciences or science education. The minor provides students with a broad background in all facets of microbiology, preparing them to pursue careers in diagnostic and research laboratories, public health, agriculture, food industry, pharmaceutical companies, academia, governmental agencies, and the private sector. The goal is to provide a sound but varied educational experience.

### Student Learning Outcomes

Upon completion of the Microbiology minor, students will:

- apply the process of science.
- demonstrate understanding of and application of quantitative reasoning; information flow, exchange, and storage in microorganisms; relationship between science and society.
- demonstrate knowledge on how microorganisms interact with and impact their environment and the interaction between microorganisms and humans, animals and plants.
- describe and use new and existing methods and technologies in and out of the laboratory setting.

### Academic Requirements

A minimum GPA of 2.0 must be maintained in the major courses.

### Course Delivery Format

Program coursework is on-campus, in classrooms and laboratories, as well as field-based settings. Additional coursework is available at off-campus attendance centers. Limited coursework is available online.

### Requirements for Microbiology Minor: 18 Credits

- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4

### Electives

Select additional courses prefixed MICR. Credits: 14

- Two courses must be 300 level or above.
- No more than 3 credits can come from MICR 494, MICR 497, and MICR 498.
- DS 301-301L - Dairy Microbiology and Lab Credits: 4 may also be included.

### Total Required Credits: 18

## Military Science Minor

### Program Coordinator/Contact

LTC Jason W. Kettwig, Department Head
Department of Military Science
DePuy Military Hall 200, Box 2236
605-688-6151

### Program Information

A minor in Military Science is compatible with all majors. The program offers instruction and practical experience in leadership and management, the development of selected military skills and problem-solving techniques, the role of the Army in modern society, the customs and traditions of the Army, marksmanship, military law, administration, and professional ethics. Military Science training prepares qualified students seeking a baccalaureate or master's degree to serve as commissioned officers in the active Army, the Army National Guard, or the Army Reserve.

### Student Learning Outcomes

- All students are prepared with the tools, training and experiences that will help them succeed in any competitive environment.
- First and second year students understand basic military skills and the fundamentals of leadership which lays the groundwork toward becoming an Army leader.
- Third and fourth-year students understand advanced military skills and have experience in team organization, planning, and decision-making which prepares them to become commissioned Officers in the U.S. Army.

### Course Delivery Format

MSL courses are delivered through lecture, discussion, laboratory, and field-based learning experiences.

### Requirements for Military Science Minor: 20 Credits

- MSL 301-301L - Training Management and the Warfighting Functions and Lab (COM) Credits: 4
- MSL 302-302L - Applied Leadership in Small Unit Operations and Lab (COM) Credits: 4
- MSL 401-401L - The Army Officer and Lab (COM) Credits: 4
- MSL 402-402L - Company Grade Leadership and Lab (COM) Credits: 4
- MSL 494 - Internship (COM) Credits: 4 (ROTC Advance Course)

### Total Required Credits: 20

## Museum Studies Minor

### Program Coordinator/Contact

Leda Cempellin, Professor/Program Coordinator
College of Arts, Humanities and Social Sciences
101 Grove Hall, Box 2802
605-688-4723

### Program Information

Museum Studies in an interdisciplinary minor program providing students with a strong background in the preservation and presentation of cultural materials and artifacts, as well as communication, design, and management skills. It will prepare them for entry level jobs in museums, cultural organizations, historical sites, and for graduate study in the discipline of Museum Studies or in other fields including art history, children's educational programming, management of non-profits, electronic and multi-media design.

### Student Learning Outcomes

As a result of completing the minor in Museum Studies, students will:

- demonstrate familiarity with museum professions, practices, and management.
- integrate design and communication skills for effective exhibits and interpretations.
- understand the contexts and uses of cultural and natural objects.
- develop knowledge of the legal, ethical, and social responsibilities of museums as educational institutions.
- demonstrate proficiency in the technical aspects of museum work, including the care and management of collections, technology applications, and disaster preparedness.

### Academic Requirements

Eighteen hours with a "C" or better in each course are required for the minor.

Students will select a concentration of nine credits for more focused experience in specific areas of interest: Art and Design; Educational Programming for Early to Middle Childhood; Botanical Gardens and Arboreta; American Indian History and Culture; and History, Science, and the Land.

### Course Delivery Format

Program courses are taught on campus, online, and in field based settings.

### Requirements for Museum Studies Minor: 18 Credits

- AHSS 110 - Introduction to Museum Studies Credits: 3
- AHSS 494 - Internship (COM) Credits: 3
- Select two of the following courses:
  CA 321 - Consumer Needs and Program Funding Credits: 3
  ENGL 379 - Technical Communication (COM) Credits: 3
  LDR 210 - Foundations of Leadership Credits: 3

### Select from the following

Select six credits from one of the following concentrations. Credits: 6

### American Indian History and Culture Concentration

- AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3
- AIS Electives Credits: 3-6
- ANTH 210 - Cultural Anthropology (COM) [SGR #3] Credits: 3
- HIST 367 - Rise of American Indian Activism Credits: 3
- HIST 476 - History of South Dakota (COM) Credits: 3
- GEOG/ CMST 470 - Intercultural Communication (COM) Credits: 3

### Art and Design Concentration

- ART 121 - Design I 2D (COM) [SGR #4] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ARTH Electives Credits 3-6
- DSGN 110 - Creative Thinking Credits: 3
- FSRM 242-242L - Textiles I and Lab Credits: 3
- FSRM/ WMST 253 - Socio-Psychological Aspects of Dress Credits: 3
- FSRM 352 - History of Dress in the Western World Credits: 3
- GDES 101 - Computer Graphics Credits: 3
- ID 209 - Human Factors and Behavior Credits: 3
- ID 341 - History of Interior Design I Credits: 3

### Botanical Gardens and Arboreta Concentration

- CA 150 - Introduction to Consumer Affairs Credits: 2
- CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
- HMGT 355 - Events and Facilities Administration Credits: 3
- FCSE 421 - Adult Education Credits: 3
- HDFS 150 - Early Experience Credits: 2
- HO Electives Credits: 3-6
- LA Electives Credits: 3-6

### Educational Programming for Early to Middle Childhood Concentration

- DANC 241-241L - Creative Movement for Children and Lab Credits: 2
- ECE Electives Credits: 3-6
- EEC Electives Credits: 3-6
- EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1
- ENGL 240 - Juvenile Literature [SGR #4] Credits: 3
- EPSY 201 - The Science of Learning Credits: 3
- EPSY 302 - Educational Psychology (COM) Credits: 3
- HDFS 227 - Human Development and Personality I: Childhood Credits: 3
- HDFS 241 - Family Relations Credits: 3

- PSYC 327 - Child Psychology Credits: 3
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- THEA 355 - Children's Theatre (COM) Credits: 3

### History, Science, and the Land Concentration

- AGED 404-404L - Methods in Agricultural Education and Lab Credits: 3, 1
- BOT 127 - Ethnobotany Credits: 3
- GEOG Electives Credits: 3-6
- HIST 280 - Writing History (COM) Credits: 3
- HIST 378 - Social and Cultural History of the US Credits: 3
- HIST 409-509 - Environmental History of the U.S. (COM) Credits: 3
- HIST 476 - History of South Dakota (COM) Credits: 3
- POLS 210 - State and Local Government (COM) [SGR #3] Credits: 3
- PS 243 - Principles of Geology [SGR #6] Credits: 3
- SOC 240 - The Sociology of Rural America (COM) [SGR #3] Credits: 3

**Total Required Credits: 18**

## Music Minor

### Program Coordinator/Contact

David Reynolds, Director
School of Performing Arts
Oscar Larson Performing Arts Center 123B, Box 2830
605-688-5187

### Program Information

The Music minor is for students wishing to undertake an in-depth study of music without majoring in it. The program requires eighteen hours of specialized coursework plus major ensemble participation.

### Student Learning Outcomes

Students with a minor in Music will demonstrate:

- a common body of knowledge required for musical self-expression,
- a basic knowledge of music history,
- a basic understanding of the common elements and organizational patterns of music, and the ability to employ this understanding to aural, verbal, and visual analyses,
- the ability to read music at sight and take aural dictation,
- skills sufficient for solo performance,
- skills sufficient for musical collaboration in group performance.

### Academic Requirements

MUS 185 required for each semester enrolled for applied lessons. In addition, minors must participate in Major Ensembles each semester in which they are enrolled in Applied Music lessons. Participation in small ensembles is strongly encouraged.

### Course Delivery Format

The program offers coursework in classroom, studio, and performance settings. The program allows for internship experiences and independent studies.

### Requirements for Music Minor: 18 Credits

- MUAP/MUEN Ensemble and Applied Music (applied music not to exceed the 200-level) (see academic requirements) Credits: 6
- MUS/MUAP/MUEN Electives Credits: 3
- MUS 110 - Music Theory I (COM) Credits: 4
- MUS 110L - Aural Skills I (COM) Credits: 0
- MUS 130 - Music Literature and History I [SGR #4] Credits: 2

### Select from the following

Select one course of the following from the list. Credits: 3

- MUS 100 - Music Appreciation (COM) [SGR #4] Credits: 3
- MUS 131 - Music Literature and History II [SGR #4] Credits: 3
- MUS 201 - History of Country Music [SGR #4] Credits: 3
- MUS 203 - Blues, Jazz, and Rock [SGR #4] Credits: 3
- MUS 433 - Music Literature and History III Credits: 3

**Total Required Credits: 18**

## Nuclear Engineering Minor

### Program Coordinator/Contact

Robert McTaggart, Coordinator
Department of Physics
Daktronics Engineering Hall 255
605-688-5428

### Program Information

A minor in Nuclear Engineering can be beneficial to individuals who are pursuing an undergraduate degree in engineering, physical sciences, and health related fields or pre-professional programs; e.g. the nuclear power industry has strong demand for many different engineering majors (e.g. EE, ME, CE, etc.) that have a background that this minor provides. Nuclear Engineering is a broad multidisciplinary field that offers rewarding careers related to nuclear power, health physics, medical physics, nuclear and particle physics, and industrial applications such as sterilization of medical products or food irradiation. Students who complete the minor in nuclear engineering at SDSU will be well prepared for engineering/science careers or for graduate programs for advanced degrees related to nuclear engineering, health physics, medical physics, or physics.

### Student Learning Outcomes

Completion of the minor in Nuclear Engineering will enable students to:

- Apply advanced mathematics, science, and/or engineering science to nuclear and/or radiological systems.
- Measure nuclear and radiological processes.
- Understand the biological effects of radiation and standard radiation safety practices.
- Demonstrate competency in contemporary issues regarding nuclear power.
- Demonstrate the ability to work effectively in an area of nuclear science.

### Program Requirements

Students planning a nuclear engineering minor must declare the minor and receive departmental approval for how they intend to fulfill the internship/research experience requirement of the degree. Contact the program coordinator if you are planning to graduate with this minor.

### Course Delivery Format

Instruction is mostly didactic (classroom) along with a field experience accomplished through the required internship/research experience. Students who are majoring in a field that requires a capstone/research design experience can often use that experience to fulfill the experiential requirement of the Minor. Contact the program coordinator for details.

### Requirements for Nuclear Engineering Minor: 18 Credits

- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
- NE 435-535 - Introduction to Nuclear Engineering Credits: 3
- NE 437-537 - Foundations of Health Physics Credits: 3

### Internship/Research Requirement

The internship/research experience must be related to nuclear science or operations in the nuclear industry. Student must obtain prior approval for the experience from the Coordinator. Credits: 2-3

- NE 494 - Internship (COM) Credits: 1-3
- NE 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3

### Electives

Select six or more credits from the following list of courses. Credits: 6-7

- CHEM 332-332L - Analytical Chemistry and Lab (COM) Credits: 3, 1
- EE 434-434L - Power Systems and Lab Credits: 3, 1
- EE 460-460L/560-560L - Sensor and Measurements Laboratory Credits: 2, 1
- EE 470 - Communications Engineering Credits: 3
- EE 492-592 - Topics (COM) Credits: 1-4 (3 credits required) (Advanced Power Systems)
- ME 341-341L - Metallurgy and Lab Credits: 3
- ME 362 - Industrial Engineering Credits: 3
- ME 413-513 - Turbomachinery Credits: 3
- ME 418-518 - Design of Thermal Systems Credits: 3
- ME 433-433L/533-533L - Non-Destructive Testing and Evaluation and Lab Credits: 3
- ME 437-537 - Gas Dynamics I Credits: 3
- ME 439-439L/539-539L - HVAC System Design and Lab Credits: 3

- ME 442-542 - Applications of Computational Fluid Dynamics Credits: 3
- PHYS 418 - Advanced Lab II Credits: 1
- PHYS 433-533 - Nuclear and Elementary Particle Physics (COM) Credits: 3

**Total Required Credits: 18**

## Nutrition Minor

### Program Coordinator/Contact

Kendra Kattelmann, PhD, RDN, LN, FAND, Director
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5161

### Program Information

A minor in Nutrition can be beneficial to individuals who are pursuing an undergraduate degree in many health related fields and pre-professional programs. It may also assist students who are interested in attending graduate or medical school by providing a strong science knowledge base. The minor would benefit students in the hospitality and/or food service industries. The minor does not allow students to become a registered dietitian, but it provides a strong fundamental knowledge of metabolism and the complex interaction between foods and body systems.

### Student Learning Outcomes

Graduates with a minor in Nutrition will be able to:

- demonstrate fundamental knowledge of food selection, preparation, and safety,
- demonstrate a fundamental knowledge related to human nutrition and health-promoting dietary practices,
- identify appropriate and reliable nutrition information and use that information within appropriate ethical and legal limits.

### Academic Requirements

Students planning a minor must receive School approval. Some courses in the curriculum have prerequisites; higher level mathematics or chemistry courses *may* be accepted, with School approval.

### Course Delivery Format

Program coursework is presented in lecture, laboratory, and field-based learning experiences.

### Requirements for Nutrition Minor: 18 Credits

- HMGT 251 - Foodservice Sanitation Credits: 1
- NUTR 111 - Food, People and the Environment Credits: 3
- NUTR 141-141L - Foods Principles and Lab Credits: 4
- NUTR 315 - Human Nutrition (COM) Credits: 3
- NUTR 323 - Nutrition Across the Life Cycle Credits: 3
- NUTR 422-522 - Advanced Human Nutrition and Metabolism Credits: 4

**Total Required Credits: 18**

## Performing Arts Administration Minor

### Program Coordinator/Contact

David Reynolds, Director
School of Performing Arts
Oscar Larson Performing Arts Center 123B, Box 2830
605-688-5188

### Program Information

The Performing Arts Administration minor will provide focus on the skills and experiences required for students to become professionals capable of entering the workforce in the performing arts. Students will be prepared to manage a theatre company, dance company, symphony, performing arts venue, or other performing arts organization.

### Student Learning Outcomes

Students who complete the Performing Arts Administration minor will:

- recognize and learn to apply best practices in marketing, promotion, and patron management in the performing arts industry;
- understand and learn to apply accepted budgeting practices for performing arts industry;
- develop skills in leadership, organizational hierarchy, teamwork, and problem solving required in the performing arts industry; and
- develop specialized skills that will enhance the student's professional goals and aspirations in performing arts administration.

### Academic Requirements

Music majors with a specialization in Music Entrepreneurship are not eligible for this minor.

### Course Delivery Format

Program coursework will be delivered in a combination of lecture and project-based learning models.

### Requirements for Performing Arts Administration Minor: 18 Credits

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- MUS 304 - Introduction to the Music Industry Credits: 3
- MUS 494 - Internship (COM) Credits: 1-16 (3 credits required)
  or THEA 480 - Summer Theatre (COM) Credits: 1-5 (3 credits required)
  or THEA 494 - Internship (COM) Credits: 1-16 (3 credits required)
- THEA 375 - Theatre Arts Management Credits: 3

### Select from the following

Select 6 credits from the following list. Credits: 6

- ADV 314 - Digital Promotions Credits: 3
- FSRM 282 - Customer Service Credits: 3
- HMGT 355 - Events and Facilities Administration Credits: 3
- LMNO 201 - Introduction to Leadership and Management of Nonprofit Organizations Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3

**Total Required Credits: 18**

## Philosophy Minor

### Program Coordinator/Contact

Greg Peterson, Professor of Philosophy
School of American and Global Studies
West Hall Room 214, Box 510
605-688-4311

### Program Information

Philosophy deals with the fundamental questions of life, including the nature of knowledge, the basis of morality and politics, and the rational analysis of religious beliefs. A philosophical perspective emphasizes clear thinking about what is truly important to live well.

Student may earn a minor in Philosophy with a B.A. or a B.S. degree in another academic discipline. Students may also pursue an Interdisciplinary Studies (B.A./B.S.) with an emphasis on philosophy. The curriculum provides excellent preparation for graduate work in law, ethics, religion, philosophy and other fields in which reasoning and argumentation skills or ability to work at a high level of abstraction are important.

### Student Learning Outcomes

Graduates will be able to demonstrate effective:

- Critical thinking
- Problem solving
- Analytical reasoning
- Written communication
- Understanding of the major figures in philosophy

### Course Delivery Format

The program provides courses online and face to face on campus.

### Requirements for Philosophy Minor: 18 Credits

- PHIL 100 - Introduction to Philosophy (COM) [SGR #4] Credits: 3
- 300-400 Level Philosophy Elective Credits: 6
- Additional Philosophy Elective Credits: 9

**Total Required Credits: 18**

## Physics Minor

### Program Coordinator/Contact

Douglas Raynie, Department Head
Department of Physics
Daktronics Engineering Hall 255
605-688-5428

### Program Information

Students desiring to add additional valuable physics background and experience to their major should consider the minor in Physics. Physics is the foundation of almost all of the science and engineering disciplines. The minor in physics provides the flexibility to accommodate a wide range of student majors and interests including engineering, physical science, mathematics, biological science, or health sciences. Graduates find careers in physics research, education, engineering, medicine, nuclear medicine, law, science journalism or alternatively many other choices.

### Student Learning Outcomes

Graduates with a minor in Physics will:

- Compare favorably in their basic theoretical, mathematical and technical knowledge with students completing similar programs nationally.
- Have learned to apply basic mathematical and technical knowledge to solve problems in a variety of settings.
- Have enhanced learning skills that will complement their major and prepare them to be lifelong learners.

### Academic Requirements

Overall GPA of 2.0 in courses used to fulfill the Minor requirements and a grade of C or better in PHYS 111/211/113/213.

### Course Delivery Format

Physics students learn through hands-on and face to face learning in lecture, laboratory, and field based experiences.

### Requirements for Physics Minor: 18 Credits

- PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
  or PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4
  or PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
- Physics Elective Credits: 3
- 300 level or higher Physics Elective Credits: 4

**Total Required Credits: 18**

## Political Science Minor

### Program Coordinator/Contact

Evren Celik Wiltse, Associate Professor of Political Science
School of American and Global Studies
West Hall Room 226, Box 510
605-688-5102

### Program Information

The study of Political Science examines political processes, governments, and international relations. The Bachelor of Science and Bachelor of Arts degrees in Political Science prepare our graduates for careers in government - at state, local and federal levels, private sector, advocacy organizations including political parties, and non-profit agencies. It is a flexible degree that offers multiple career tracks. Many of our students successfully pursue advanced degrees in law school and other graduate programs. Based on their personal preferences, students in this minor can concentrate more on courses related to American Politics and Legal Studies or International Relations.

### Student Learning Outcomes

Graduates with a minor in Political Science will be able to:

- define concepts, theories, and methods of political science.
- develop critical thinking skills by identifying multiple theories and perspectives, and recognizing the difference between strong and weak arguments based on evidence.
- demonstrate research and writing skills by using methods appropriate for the political science discipline.
- effectively navigate the library and online databases.

### Course Delivery Format

The program provides courses online and face to face on campus and at various off-campus attendance centers.

### Requirements for Political Science Minor: 18 Credits

- POLS 100 - American Government (COM) [SGR #3] Credits: 3
- 300-400 Level Political Science Elective Credits: 9
- Additional Political Science Elective Credits: 6

**Total Required Credits: 18**

## Precision Agriculture Minor

### Program Coordinator/Contact

Van Kelley, Department Head
Department of Agricultural and Biosystems Engineering
Raven Precision Agriculture Center 136
605-688-5143

David Wright, Department Head
Department of Agronomy, Horticulture, and Plant Science
Raven Precision Agriculture Center 140
605-688-5123

### Program Information

The minor in Precision Agriculture is designed for students pursuing careers with agricultural equipment manufacturers, agricultural equipment dealerships, agronomic service providers, production agriculture, and companies working with the management and analysis of agricultural data. The minor will provide students with skill sets needed to provide troubleshooting and support of sophisticated agricultural equipment systems and the decision making skills needed to analyze large amounts of data to determine the precise inputs needed for maximum crop production through data analysis.

### Student Learning Outcomes

Graduates with a minor in Precision Agriculture will:

- be able to interpret data from farming and land use decisions and apply spatial statistics to make site specific management recommendations.
- understand the relationship of soil characteristics and soil classification to land use interpretations.
- be able to graphically represent the factors that influence crop productivity in a way that facilitates analysis and management of agricultural operations.
- understand the principles of operation of global positioning systems, agricultural receivers, displays, guidance systems, yield monitors, and the sources of error and correction options to improve accuracy.
- demonstrate the use of automatic controls for variable rate application and troubleshoot the communication networks for precision agriculture equipment.
- understand the operating principles of the electronic equipment used in precision agriculture and be able to diagnose, troubleshoot, and repair common equipment malfunctions.
- demonstrate ability to analyze large amounts of data to maximize both field production and environmental sustainability.

### Academic Requirements

Students must have a 2.5 GPA or higher and a grade of C or higher in the program's coursework.

### Course Delivery Format

Instruction will occur through a combination of traditional classroom methods, laboratory exercises using current agricultural production technologies, and agricultural mapping software.

### Requirements for Precision Agriculture Minor: 18-19 Credits

- AST 426-426L - Technology Applications for Precision Agriculture and Lab Credits: 3
- PRAG 304-304L - Electrical Diagnostics for Farm Machinery and Lab Credits: 3
- PRAG 427-527 - Precision Ag Data Mapping Credits: 2
- PRAG 440-440L/540-540L - Crop Management with Precision Farming and Lab Credits: 3

### Electives

Select from the following. Credits: 7-8

- AST 313-313L - Farm Machinery Systems Management and Lab Credits: 3

- AST 412-412L - Fluid Power Technology and Lab Credits: 3
- PRAG 203-203L - Introduction to Precision Agriculture and Lab Credits: 3
- PRAG 410-410L/510-510L - Soil Geography and Land Use Interpretation and Lab Credits: 2, 1
- PRAG 424-524 - Wheat Production Credits: 2
- PRAG 425-525 - Soybean Production Credits: 2
- PRAG 426-526 - Corn Production Credits: 2

**Total Required Credits: 18-19**

## Professional Writing Minor

### Program Coordinator/Contact

Jason McEntee, Department Head
Department of English and Interdisciplinary Studies
Pugsley Hall 301, Box 2218
605-688-5191

### Program Information

The Professional Writing minor will prepare students from all disciplines to write persuasively, clearly, and effectively in professional settings, thereby contributing to the economic growth of the State and region. English majors who have professional writing backgrounds find careers as editors, publishers, copywriters, website designers, writers and free-lance writers, and grant writers in business, government, academia, and the non-profit sector. Non-English majors may also elect to complete the proposed minor in Professional Writing. Combining the Professional Writing minor with majors in areas such as Biology, Chemistry or Plant Science will provide more intense writing skill development for students. This combination will make them more marketable for positions in their specific discipline which require higher level writing skills.

### Student Learning Outcomes

Students will:

- Learn research methods (library and Internet searches, qualitative and ethnographic methods).
- Learn the components of audience, rhetorical, contextual, and ethical analysis.
- Plan and manage projects.
- Collaborate with peers and clients on projects.
- Effectively and persuasively present their ideas in oral and written presentations.
- Utilize appropriate technology in completing projects and presenting them to an audience (software, hardware, multimedia).
- Demonstrate an understanding of document and web-site design.
- Edit and design documents for various audiences and purposes.

### Academic Requirements

To count toward the minor, courses must be passed with a minimum grade of "C."

### Course Delivery Format

The interdisciplinary nature ensures that students will develop expertise in writing, grammar, linguistics, editing, digital media, computer graphics, visual rhetoric, and desk-top publishing in standard and smart classrooms, computer labs, and field-based settings. Students will also be strongly encouraged to undertake an internship to gain expertise in "real world" professional writing. The internship should focus on professional writing and be in addition to an internship required by programs to develop specific job-related skills.

### Requirements for Professional Writing Minor: 18 Credits

- CMST 410-510 - Organizational Communication (COM) Credits: 3
- ENGL 379 - Technical Communication (COM) Credits: 3
- LING 203 - English Grammar Credits: 3
- MCOM 220-220L - Introduction to Digital Media and Lab (COM) Credits: 3

### Electives

Select from the following courses. Credits: 6

- CMST 415-515 - Communication and Gender (COM) Credits: 3
- CMST 416-516 - Rhetorical Criticism (COM) Credits: 3
- CMST 470 - Intercultural Communication (COM) Credits: 3
- ENGL 380 - Futuristic Communications Credits: 3
- ENGL 383 - Creative Writing (COM) Credits: 3
- ENGL 492 - Topics (COM) Credits: 1-5 (3 credits required) (Topics in Professional Writing: Writing for Professions in the Sciences and Humanities) (Topics in Creative Writing: Fiction, Poetry, Creative Nonfiction, and Screenwriting)
- ENGL 494 - Internship (COM) Credits: 1-12
- GDES 101 - Computer Graphics Credits: 3
- GDES 207 - Interactive Design I Credits: 3
- GDES 216 - Typography Credits: 3
- GDES 415 - Publication Design Credits: 3
- LING 420-520 - The New English Credits: 3
- MCOM 210-210L - Basic Newswriting and Lab (COM) Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- MCOM 311-311L - News Editing and Editing Lab (COM) Credits: 3
- MCOM 316 - Magazine Writing and Editing Credits: 3
- MCOM 317 - Multimedia Reporting (COM) Credits: 3
- MCOM 359-359L - Mobile Media Design and Applications and Lab Credits: 3
- MCOM 485-585 - Science Writing (COM) Credits: 3

**Total Required Credits: 18**

## Psychology Minor

### Program Contact/Coordinator

Elizabeth Koob, Professional Advisor
School of Psychology, Sociology and Rural Studies
Hansen Hall 102
605-688-6296

### Program Information

Students who have an interest in psychology but would prefer to adapt their study as a complement to another major may choose to minor in Psychology. The curriculum allows flexibility in course selection. Thus, students with majors in a wide variety of disciplines will find it possible to design a psychology minor that is relevant to their career goals.

### Student Learning Outcomes

Upon completion of the minor in Psychology, students will:

- demonstrate familiarity with major concepts in psychology;
- understand basic research methods in psychology;
- critically evaluate empirical support for various theories and findings;
- apply psychological content and skills to career goals.

### Academic Requirements

Psychology does not permit the double use of courses in its major with a minor. All Psychology courses must have a "C" or better.

### Course Delivery Format

Psychology courses are delivered in multiple formats including face-to-face lecture and laboratory courses, as well as online courses.

### Requirements for Psychology Minor: 18 Credits

- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- Complete two additional PSYC courses from Domains I-III in the list below. Credits: 6

### Domain I

Select one course from the following list. Credits: 3

- PSYC 301 - Sensation and Perception (COM) Credits: 3
- PSYC 305 - Learning and Conditioning Credits: 3
- PSYC 406 - Cognitive Psychology (COM) Credits: 3
- PSYC 411 - Physiological Psychology (COM) Credits: 3
- PSYC 414 - Drugs and Behavior (COM) Credits: 3
- PSYC 417 - Health Psychology (COM) Credits: 3

### Domain II

Select one course from the following list. Credits: 3

- PSYC 244 - Environmental Psychology Credits: 3
- PSYC 327 - Child Psychology Credits: 3
- PSYC 364 - Cross Cultural Psychology Credits: 3
- PSYC 367 - Psychological Gender Issues Credits: 3
- PSYC 441 - Social Psychology (COM) Credits: 3

- PSYC 443 - Social Psychology of Prejudice (COM) Credits: 3

### Domain III

Select one course from the following list. Credits: 3

- PSYC 331 - Industrial and Organizational Psychology (COM) Credits: 3
- PSYC 357 - Psychological Therapies Credits: 3
- PSYC 358 - Behavior Modification Credits: 3
- PSYC 427 - Child Psychopathology Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- PSYC 492 - Topics (COM) Credits: 1-4 (3 credits required) (Organizational Development)

**Total Required Credits: 18**

## Public Relations Minor

### Program Coordinator/Contact

Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211, Box 2235
605-688-4171

### Program Information

The minor in Public Relations, available to all students, will equip students with the fundamental skills - writing, content production, public relations planning - that will help them become more attractive job candidates in their chosen fields. The course work provides a strong foundation in public relations with flexibility in elective course work to meet the needs of students pursuing a variety of careers.

### Student Learning Outcomes

Students completing a minor in Public Relations will:

- Demonstrate an understanding of the role of professionals and institutions in shaping communications.
- Demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness, and diversity.
- Think critically, creatively, and independently.
- Write correctly and clearly in forms and styles appropriate for the communications professions, audiences, and purposes they serve.
- Apply tools and technologies appropriate for the communications professions in which they work.

### Equipment and Supplies

Students are encouraged to purchase a laptop (Apple Mac preferred) and software appropriate for the discipline.

### Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

### Requirements for Public Relations Minor: 18 Credits

- MCOM 210-210L - Basic Newswriting and Lab (COM) Credits: 3
- PUBR 243 - Public Relations Principles (COM) Credits: 3
- PUBR 345 - Public Relations Writing Credits: 3

### Select from the following

Select three courses from at least two different prefixes. Journalism and Advertising majors must select courses outside of the ADV and MCOM prefixes to ensure compliance with ACEJMC accreditation standards. ACEJMC accreditation requires that students majoring in Advertising, Journalism or Public relations have at least 72 credit hours outside of the accredited prefixes (ADV, MCOM, PUBR). Credits: 9

- ADV/ PUBR 411-411L - Media Analytics and Studio Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
- CMST 311 - Business and Professional Communication (COM) Credits: 3
- CMST 422 - Persuasion (COM) Credits: 3
- HMGT 355 - Events and Facilities Administration Credits: 3
- LMNO 201 - Introduction to Leadership and Management of Nonprofit Organizations Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- MCOM 220-220L - Introduction to Digital Media and Lab (COM) Credits: 3

**Total Required Credits: 18**

## Ranch Management Minor

### Program Coordinator/Contact

Cody Wright, Professor
Department of Animal Sciences
Animal Science Complex 212
605-688-5448

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

Alexander (Sandy) Smart, Assistant Department Head and Professor
Department of Natural Resource Management
Animal Science Complex, Room 219
605-688-6121

### Program Information

A minor in Ranch Management will provide students with a broad, cross-disciplinary training that integrates financial management, grassland management, and livestock management. Each of these components is critical to the success of ranching enterprises. The minor will provide students with a breadth of knowledge critical for success as a ranch manager.

### Student Learning Outcomes

Students completing a Ranch Management minor will be able to:

- develop a complete ranch management plan including a vision statement, key assumptions, marketing plan, operational plan, and financial plan.
- describe and implement best management practices for financial data collection, reports and analysis.
- describe and implement best management practices for grassland ecosystems.
- describe and implement best management practices for animal husbandry practices for their species of choice.

### Course Delivery Format

The Ranch Management minor provides hands-on experiences in the classroom, laboratories, and field trips.

### Requirements for Ranch Management Minor: 18 Credits

- AGEC 271 - Farm and Ranch Management Credits: 3
  or AGEC 471-571 - Advanced Farm & Ranch Management Credits: 3
- AS/ RANG 215 - Introduction to Integrated Ranch Management Credits: 3
- RANG 205 - Introduction to Range Management [SGR #6] Credits: 3

### Select from the following

Select 3 courses from the following, at least one must be prefixed AGEC, and at least one must be prefixed AS. Credits: 9-10

- AGEC 271 - Farm and Ranch Management Credits: 3 (if not used above)
- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AGEC 471-571 - Advanced Farm & Ranch Management Credits: 3 (if not used above)
- AS 264 - Ruminant Livestock Production Credits: 3
- AS 474-474L - Cow/Calf Management and Lab Credits: 3
- AS 476-476L - Horse Production and Lab Credits: 3
- AS 477-477L - Sheep and Wool Production and Lab Credits: 3
- RANG 321 - Wildland Ecosystems Credits: 3
- RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4
- RANG 421-521 - Grassland Fire Ecology Credits: 3

**Total Required Credits: 18**

## Rangeland Ecology & Management Minor

### Program Coordinator/Contact

Alexander (Sandy) Smart, Assistant Department Head and Professor
Department of Natural Resource Management
Animal Science Complex, Room 219
605-688-6121

### Program Information

Rangeland Ecology and Management focuses on the scientific study of rangelands, arid regions, grasslands, as well as resource management for maximum benefit and environmental balance. Students from a variety of majors select a minor in Rangeland Ecology and Management to enhance their baccalaureate education and increase their career possibilities.

### Student Learning Outcomes

Upon completion of the minor in Rangeland Ecology and Management, students will:

- demonstrate understanding of ecological and environmental principles required for management of natural resources for multiple-uses, including (but not limited to) wildlife habitat, water management, ecosystem services, recreation and livestock production;
- describe how natural resource management fits into the context of society and how societal factors (e.g., economics, policy, laws, regulations, attitude, behaviors, norms) influence natural resource management;
- demonstrate the ability to lead and work with others as appropriate to successfully manage natural resources;
- demonstrate appropriate use of natural resource field and lab techniques as well as contemporary technologies;
- demonstrate the ability to appropriately analyze and critically evaluate data and other information;
- demonstrate the ability to effectively communicate (both written and orally) with both scientific and non-scientific audiences; and
- demonstrate an understanding of the professional and ethical responsibility that is imperative of a natural resource manager.

### Accreditation, Certification, and Licensure

The Rangeland Ecology and Management program is accredited by the Society for Range Management.

### Course Delivery Format

The Rangeland Ecology and Management program is on campus and engages students in experiential learning in lecture, laboratory, and field based settings.

### Requirements for Rangeland Ecology and Management Minor: 18 Credits

- RANG 205 - Introduction to Range Management [SGR #6] Credits: 3
- RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4
- RANG Courses Credits: 5

### Electives

Additional credits selected from the following list and outside of the students major field of study. Credits: 6

- AS 218 - Survey of Animal Nutrition Credits: 3
- AS 264 - Ruminant Livestock Production Credits: 3
- AS 477-477L - Sheep and Wool Production and Lab Credits: 3
- BIOL 311 - Principles of Ecology (COM) Credits: 3
- BOT 301-301L - Plant Systematics (COM) Credits: 3
- GEOG 365 - Land Use and Planning Credits: 3
- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1
- PS 313 - Forage Crop and Pasture Management Credits: 3
- RANG Courses Credits: 6
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- WL 411-411L - Principles of Wildlife Management and Lab Credits: 3

### Total Required Credits: 18

## Recreation Administration Minor

### Program Coordinator/Contact

Kendra Kattelmann, Director
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5161

### Program Information

A Recreation Administration minor is an interdisciplinary minor offered to any student and is strongly suggested for individuals pursuing studies in related areas of physical education or health. This minor may also be of particular interest to those pursuing summer/seasonal opportunities with municipal park and recreation agencies, state and national park agencies, Boys and Girls Clubs, and YMCA or YWCA's. Contact the Recreation Administration Coordinator for details and to plan for this minor.

### Student Learning Outcomes

Students with a minor in Recreation Administration will be able to:

- demonstrate an entry-level knowledge and understanding of the recreation profession,
- understand and apply entry-level knowledge of recreation principles, programming, and management of leisure services.

### Course Delivery Format

The program coursework is delivered through lecture, laboratory, and field-based learning experiences.

### Requirements for Recreation Administration Minor: 18 Credits

- RECR 140 - Introduction to Sport, Recreation and Park Management Credits: 3
- RECR 260 - Fundamentals of Sport and Recreation Leadership Credits: 3
- RECR 360 - Sport, Recreation and Park Programming Credits: 3
- RECR 410 - Current Issues in Recreation and Sport Credits: 3
- RECR 415-515 - Sport and Recreation Facility Management Credits: 3
- RECR 440 - Sport and Recreation Administration Credits: 3

### Total Required Credits: 18

## Rehabilitation Services Minor

### Program Contact/Coordinator

Jay Trenhaile, Professor
School of Education, Counseling and Human Development
Wenona Hall 109
605-688-4367

### Program Information

A minor in rehabilitation services fits well with majors such as Human Development, Psychology, Sociology, etc. Rehabilitation counselors provide services that assist people with physical or psychiatric disabilities to become or remain self-sufficient, productive citizens. They help people with disabilities accept themselves and lead satisfying and productive lives.

Their knowledge of specific disabilities as well as related knowledge and skills, distinguish rehabilitation counselors. Rehabilitation counselors address the environmental and social obstacles facing people with disabilities; facilitate connections between people with disabilities and their families, communities, and employers; and utilize knowledge from several fields, including psychology, medicine, psychiatry, sociology, education, and law.

### Student Learning Outcomes

Each student will develop an employment portfolio that includes a project from each class. The projects will include evidence of the competencies and dispositions relevant to the work position being sought.

Students will demonstrate the ability to:

- monitor and facilitate client progress toward goals and objectives;
- maintain records and case files;
- recognize and understand community referral sources;
- develop job placement sites;
- recognize client strengths and weaknesses from both a personal and employment standpoint;
- identify various cultural characteristics; and
- recall and apply ethical guidelines

### Course Delivery Format

The courses for the minor in rehabilitation services are offered predominantly through Internet delivery.

### Requirements for Rehabilitation Services Minor: 18 Credits

- CHRD 301 - Introduction to Rehabilitation Credits: 3
- CHRD 351 - Medical and Vocational Case Management (COM) Credits: 3
- CHRD 352 - Counseling Special Populations Credits: 3
- CHRD 353 - Ethics and the Helping Professions Credits: 3
- CHRD 451 - Individual and Group Counseling Credits: 3
- CHRD 452 - Addictions Rehabilitation Credits: 3
  or CHRD 453 - Family Therapy Credits: 3

### Total Required Credits: 18

## Religion Minor

### Program Coordinator/Contact

A. James Murphy, Associate Professor of Religion
School of American and Global Studies
West Hall Room 118, Box 510
605-688-4687

### Program Information

Religion is a fundamental part of human societies globally, shaping law and politics, history, science, economics, the arts, education, and more. The Religion minor introduces students to the various historical and contemporary expressions of diverse religious traditions as a dimension of the human experience. Religion scholars examine the history, texts, artifacts, beliefs, values, behaviors, rituals, and social identities of a variety of the world's religious traditions.

By its nature, the study of religious interdisciplinary in its approach and complements a number of majors in the humanities and science sciences such as anthropology, education, global studies, history, languages, legal studies, nursing, philosophy, political science, psychology, and sociology. The knowledge and global perspectives, and skills in critical thinking, analysis, and communication developed by completing a religion minor will add value to careers in these professions, help prepare them for graduate school, seminary, or a variety of church-related careers.

Students may also select an Interdisciplinary Studies (B.A./B.S.) with an emphasis on religion.

### Student Learning Outcomes

Graduates with a minor in Religion will be able to demonstrate:

- Critical thinking, analytical reasoning, problem solving, and written communication.
- Familiarity with widespread religious traditions.
- An understanding of how religions affect and are affected by their cultural contexts.
- How religions internally and externally reflect the diversity of the human experience.
- An understanding and working knowledge of some of the critical methods used in the study of the Bible and other ancient texts.

### Course Delivery Format

The program provides courses online and face to face on campus and at various off-campus attendance centers.

### Requirements for Religion Minor: 18 Credits

- REL 250 - World Religions (COM) [SGR #4] Credits: 3
- Additional Religion Credits: 15

### Total Required Credits: 18

## Retail Merchandising Minor

### Program Coordinator/Contact

Kendra Kattelmann, Director
School of Health and Consumer Sciences
Wagner Hall 425, Box 2275A
605-688-5161

### Program Information

A minor in Retail Merchandising will provide a focus on the retail and merchandising function and will provide opportunities for students to become professionals capable of entering the workforce of retail and fashion. The minor is a way for students to diversify their education and incorporate analytical thinking, business skills, and global apparel perspective into their overall academic experience. The coursework is designed to prepare students with a better understanding of the retail and merchandising function in the apparel and fashion industry, which will expand their understanding of how the retail experience and the merchandise meets the needs of the consumer, allows them to identify the origins and meanings of trends, and broadens their understanding of the political, economic, and social factors that play a role in the global market.

### Student Learning Outcomes

Students who complete the minor in Retail Merchandising will:

- Define terminology, concepts, and theories related to the apparel industry, retail environment, and the role of fashion in society.
- Demonstrate understanding of the economic, political, and social issues that underlie the global apparel industry.
- Recognize and appraise the strategic and operations-oriented policies, methods, and procedures used by successful retailers in today's global economy.
- Identify the origins of trends and examine their influence on the consumer market.

### Academic Requirements

Fashion Studies and Retail Merchandising majors are not eligible for the minor.

### Course Delivery Format

Students learn through lecture, laboratory, and hands-on learning experiences.

### Requirements for Retail Merchandising Minor: 18 Credits

- FSRM 172 - Introduction to Apparel Merchandising Credits: 2
- FSRM 372-372L - Trending and Buying and Lab Credits: 3
- FSRM 462 - Retail Management Credits: 3
- FSRM 473-473L - Global Sourcing and Lab Credits: 3

### Select from the following

Select 7 credits from the following list. Credits: 7

- FSRM 253 - Socio-Psychological Aspects of Dress Credits: 3
- FSRM 282 - Customer Service Credits: 3
- FSRM 315-315L - Apparel Design and Lab Credits: 3
- FSRM 352 - History of Dress in the Western World Credits: 3
- FSRM 361-361L - Aesthetics and Lab Credits: 3
- FSRM 381 - Professional Behavior at Work Credits: 3
- FSRM 472-472L - Merchandising and Lab Credits: 3
- FSRM 477 - Current Issues in the Workplace Credits: 1
- FSRM 491 - Independent Study (COM) Credits: 1-3 (1 credit required)

### Total Required Credits: 18

## Social & Human Services Minor

### Program Coordinator/Contact

Elizabeth Koob, Professional Advisor
School of Psychology, Sociology and Rural Studies
Hansen Hall 102
605-688-6296

### Program Information

Social and Human Services as a field of study encompasses course work associated with Social Work, Sociology, and Psychology providing students with an opportunity to learn about the organizations and agencies which provide social and human service; the evolution of the skills, programs, approaches used to provide these services; and a background in the social and psychological conditions that impact people seeking those services. The minor will prepare students with an understanding of the social and human services work environments and key approaches to providing human services. Students will learn basic skills and tools used in agencies providing these services. Actual experience in a service learning context or through an internship will provide them with a practical understanding of the work environment. Finally, students develop an understanding of the importance of appreciating diversity and inclusion to their placements.

### Student Learning Outcomes

Graduates with a minor in Social and Human Services will be able to:

- describe the historical roots of the Human Services field;
- understand the interdisciplinary nature of the field of human services;
- apply the philosophy, theories, and methods of Human Services to clients' problems;
- articulate the major policy issues and social conditions that are currently confronting Human Services;
- explain how conceptual frameworks guide Human Service practice;
- communicate various ways in which Human Service programs are funded, organized, administered and evaluated;
- demonstrate the ability to think critically, listen attentively, and communicate effectively;
- demonstrate the interpersonal skills necessary to establish genuine, empathic, and ethical relationships;
- demonstrate competence in evidence-based prevention, intervention, and evaluation;
- demonstrate the behaviors of a healthy helping professional.

### Academic Requirements

Students must have a minimum GPA of 2.2 in the minor, and a C or better in each course for the minor. Courses may not be used for both a Sociology major and a minor in Sociology, Social and Human Services, or Criminal Justice.

### Course Delivery Format

The program offers coursework on campus, on-line, and at attendance centers around the state.

### Requirements for Social and Human Services Minor: 18 Credits

- SOC 270 - Introduction to Social Work (COM) Credits: 3
- SOC 271 - Social Work Skills and Methods I Credits: 3
- SOC 286 - Service Learning Credits: 1-3 (3 credits required)
- SOC 400-500 - Social Policy (COM) Credits: 3

### Select from the following

Select six credits from the following. Credits: 6

- CJUS 436 - Juvenile Justice (COM) Credits: 3
- PSYC 305 - Learning and Conditioning Credits: 3
- PSYC 327 - Child Psychology Credits: 3
- PSYC 357 - Psychological Therapies Credits: 3
- PSYC 358 - Behavior Modification Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- PSYC 477 - Psychology Testing and Measurement (COM) Credits: 3
- SOC 250 - Courtship and Marriage (COM) [SGR #3] Credits: 3
- SOC 283 - Working with Diverse Populations Credits: 3
- SOC 325 - Domestic and Intimate Violence (COM) Credits: 3
- SOC 377 - Documentation in Practice Settings Credits: 3
- SOC 382 - The Family (COM) Credits: 3

**Total Required Credits: 18**

## Sociology Minor

### Program Coordinator/Contact

Elizabeth Koob, Professional Advisor
School of Psychology, Sociology and Rural Studies
Hansen Hall 102
605-688-6296

### Program Information

Students whose career goals involve extensive contact with the public, including majors in business economics, communications, criminology, engineering, human development and family studies, nursing, and psychology would benefit from a Minor in Sociology. It is a means toward greater understanding of the complex social and cultural world that shapes their future clients' and customers' life experiences, needs, and concerns.

### Student Learning Outcomes

Students with a minor in Sociology will:

- develop skills in applying the Sociological Imagination to understanding and addressing social issues.
- develop the ability to apply critical thinking skills to understanding society, social structures and the interaction of people and groups within a social context.
- understand the components of a sociological practice as they relate to career, civic, and volunteer opportunities, and developing the capacity to apply sociological principles, methods, and theories to addressing social issues.
- develop skills in communicating sociological information through writing and speaking.
- develop the skills and understanding to apply sociological theories to current and past social problems and public issues.
- demonstrate an understanding of how data is collected and analyzed and skills to assess the quality of data collected and the rigor of the analysis.
- understand and apply basic ethical principles in the study of society and in applying sociological approaches.

### Academic Requirements

Students must have a cumulative GPA of 2.2 to enter the program, a minimum GPA of 2.2 in the minor, and a C or better in each course for the minor. Courses may not be used for both a Sociology major and a minor in Sociology, Social and Human Services, or Criminal Justice.

### Course Delivery Format

The program offers coursework on campus, on-line, and at attendance centers around the state.

### Requirements for Sociology Minor: 18 Credits

- SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- 300 level or above SOC or ANTH Elective Credits: 6
- Additional SOC or ANTH Elective Credits: 9

**Total Required Credits: 18**

## Software Engineering Minor

### Program Coordinator/Contact

George Hamer, Associate Professor
Department of Electrical Engineering and Computer Science
Daktronics Engineering Hall 214
605-688-4526

### Program Information

The minor in Software Engineering provides both depth and breadth in software engineering. The minor is open to any major, but may be of special interest for students majoring computer science, electrical engineering or mechanical engineering. The minor includes foundational courses in Software Engineering, practical hands-on team design experience, and advanced coursework.

### Student Learning Outcomes

Graduates will be able to:

- Identify, formulate, and solve engineering problems that can be resolved by developing software systems.
- Use the techniques, skills, and modern software tools for the software engineering practice.
- Function on a design team and complete a major software engineering design project based on the knowledge and skills acquired in earlier course work and incorporating appropriate engineering standards and multiple realistic constraints.

### Course Delivery Format

Standard contemporary classroom and laboratory technologies are used, as well as hands-on, project based learning.

### Requirements for Software Engineering Minor: 18 Credits

- SE 305 - Foundations of Software Engineering Credits: 3
- SE 306 - Software Project Management and Testing Credits: 3
- SE 340 - Software Architecture Credits: 3
- SE 464 - Senior Design I Credits: 2
- SE 465 - Senior Design II Credits: 2

### Select from the following

Select at least five credits from the following. Credits: 5

- CSC 317 - Computer Organization and Architecture (COM) Credits: 3
- EE 347-347L - Microcontroller Systems Design and Lab Credits: 3, 1
- SE 330 - Human Factors and User Interface Credits: 3
- SE 440 - Embedded Systems Credits: 3
- SE 491 - Independent Study (COM) Credits: 1-5 (may be repeated up to 2 credits)

**Total Required Credits: 18**

## Soil Health Management Minor

### Program Coordinator/Contact

David Wright, Department Head
Brent Turnipseed, Assistant Department Head
Hani Ghosheh, Undergraduate Teaching Coordinator
Department of Agronomy, Horticulture, and Plant Science
Raven Precision Agriculture Center 140
605-688-4600 (Department Head, SRPAC 140)
605-688-4450 (Teaching Office, SNP 247)

### Program Information

The Soil Health Management Minor is open to students of all majors and provides a strong background in basic soil health sciences, covering such topics as soil biology, soil chemistry, conservation, contaminants, and sustainable land management practices. Students completing this minor may seek employment in areas of agricultural production, marketing, management, natural resource

management, and conservation, i.e., areas in which decision-making requires a sound understanding of soils.

### Student Learning Outcomes

Upon completion of the Soil Health Management Minor, students will:

- achieve a fundamental understanding of basic soil science principles and practices;
- gain an understanding of the scope, activities, and nomenclature in the field of soil health (fertility, genesis, conservation, chemistry, and microbiology);
- demonstrate the ability to effectively communicate (written, listening, and oral) with both scientific and non-scientific audiences;
- be an advocate for Soil Health Management and Agriculture in society; and
- be a lifelong learner.

### Academic Requirements

Students must have a 2.5 GPA or higher and a grade of C or higher in the program's coursework.

### Accreditation, Certification, and Licensure

Students seeking Soil Science Certification should contact their advisor and refer to the Soil Science Society of America website.

### Course Delivery Format

The program coursework is available on campus, in classrooms and laboratories, as well as field-based settings.

### Requirements for Soil Health Management Minor: 18 Credits

- PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1

### Select from the following

Select 15 credits from the following. Credits: 15

### Select from the following

Select at least 6 credits from the following. Credits 6-9

- PRAG 410-410L/510-510L - Soil Geography and Land Use Interpretation and Lab Credits: 2, 1
- PRAG 423-523 - Soil Fertility and Plant Nutrient Management Credits: 3
- PS 412-512 - Environmental Soil Chemistry Credits: 3
- PS 421-421L/521-521L - Soil Microbiology and Lab Credits: 3
- PS 462-462L/562-562L - Environmental Soil Management and Lab Credits: 3

### Select from the following

Select at least 6 credits from the following. Credits 6-9

- HO/ PS 447-547 - Organic Plant Production Credits: 3
- PRAG 310 - Sustainable Agriculture Credits: 3
- PRAG 440-440L/540-540L - Crop Management with Precision Farming and Lab Credits: 3
- PS 483-583 - Irrigation – Crop and Soil Practices Credits: 3

### Total Required Credits: 18

## Spanish Minor

### Program Coordinator/Contact

Maria Spitz, Associate Professor of Spanish
School of American and Global Studies
Wagner Hall 103, Box 2275
605-688-4275

### Program Information

The Spanish minor at SDSU consists of language, culture, and literature courses to prepare students for careers in which they will use Spanish as a language for communication. The minor offers flexibility and can easily be added to any major.

### Student Learning Outcomes

Upon the completion of the Spanish minor, students should be able to:

- Speak, read, and write Spanish at the Intermediate-Mid or Intermediate-High level
- Demonstrate knowledge and understanding of the cultures and communication cultures of the Spanish-speaking world
- Demonstrate knowledge of the Spanish-speaking world's civilizations and their cultural products, such as literatures, arts, political institutions, etc.

### Academic Requirements

### Minor Coursework

A minimum grade of "C" is required for a Spanish course to count towards the minor.

### Placement

Students who have a background in modern language study before entering the University should take the Placement Examination to determine the appropriate course in which to enroll. Credit may be obtained for courses exempted upon completion of one course in the department, with a grade of "C" or better, and the payment of the established fee to the Testing Center. Please refer to Modern Language Credit under Policies & General Academic Information in the catalog for more detailed information.

### Course Delivery Format

Most courses in the Spanish minor are offered face-to-face on campus. Some upper-division courses are offered online, normally during the summer term.

### Requirements for Spanish Minor: 18 Credits

- SPAN 201 - Intermediate Spanish I (COM) [SGR #4] Credits: 3
- SPAN 202 - Intermediate Spanish II (COM) [SGR #4] Credits: 3
- SPAN 310 - Conversation and Culture for Proficiency Credits: 3
- SPAN 330 - Reading and Writing for Communication (COM) Credits: 3
- SPAN Electives* Credits: 6
  *At least 3 credits must be at the 300- or 400-level; SPAN 101 and 102 do not count toward the minor.

### Total Required Credits: 18

## Statistics Minor

### Program Coordinator/Contact

Kurt Cogswell, Department Head
Department of Mathematics and Statistics
Chicoine Architecture, Mathematics and Engineering Hall 209
605-688-6196

### Program Information

The Statistics minor provides a background in statistics for students majoring in a variety of disciplines. Statistical methods and theory have become increasingly important in many disciplines such as the life sciences, physical sciences, social sciences, engineering, and business. As more and more data are collected, stored and analyzed, students are finding it increasingly beneficial to gain expertise in statistics to bolster their research skills and enhance their career opportunities.

### Student Learning Outcomes

Upon completion of the Statistics minor, students should be able to:

- Demonstrate competence in core undergraduate applied statistics areas.
- Demonstrate competence in a range of advanced statistics areas.
- Demonstrate competence in statistical programming.
- Communicate the results of statistical analysis clearly and succinctly.

### Academic Requirements

A grade of "C" or better is required in each course.

### Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

### Requirements for Statistics Minor: 18 Credits

- STAT 382 - Probability Credits: 3
- STAT 415-515 - R Programming Credits: 3
- STAT 482 - Mathematical Statistics Credits: 3

### Select from the following

Select three courses from the following. Credits: 9

- MATH 475-575 - Operations Research (COM) Credits: 3
- STAT 383 - Geospatial Data Analysis Credits: 3
- STAT 410-510 - SAS Programming Credits: 3
- STAT 445-545 - Nonparametric Statistics (COM) Credits: 3
- STAT 451-551 - Predictive Analytics I Credits: 3
- STAT 453-553 - Applied Bayesian Statistics Credits: 3
- STAT 460-560 - Time Series Analysis (COM) Credits: 3

### Total Required Credits: 18

## Studio Arts Minor

### Program Coordinator/Contact

Diana Behl, Studio Art Program Coordinator
School of Design
Grove Hall 101, Box 2802
605-688-4103

### Program Information

The minor in studio art may be taken by all SDSU students regardless of major and may be also selected by specific majors such as: architecture, interior design, landscape design, and others to support their major concentration and assist in their preparation for employment and/or graduate study.

### Student Learning Outcomes

Upon completion of the minor, students are able to demonstrate the following outcomes through studio projects and classroom experiences:

- Understanding of basic design principles, concepts, media and formats in selected art and design disciplines.
- Ability to apply basic principles of design and color, and competencies in drawing to work in selected art and design disciplines.
- The ability to conceive, design and create works in at least one studio art or design field.
- Working knowledge of basic aesthetic issues, process and media and their relationship to the conceptualization, development and completion of a work of art or design.
- Understanding of the basic similarities, differences, and relationship among various art and design areas.

### Academic Requirements

Studio Art students must maintain at least a major GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of a "C" or better is required in all ART, ARTE, ARTH, and GDES courses.

### Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

### Requirements for Studio Arts Minor: 18 Credits

- Select courses with the following prefixes: Art (ART), Graphic Design (GDES), and Art Education (ARTE) Credits: 15
- Required Art History coursework (ARTH) Credits: 3
  (ARTH 100 - Art Appreciation (COM) [SGR #4] does not meet the Art History requirement)

**Total Required Credits: 18**

## Sustainability Minor

### Program Coordinator/Contact

George White, Professor
Department of Geography and Geospatial Sciences
109 Wecota Hall
605-688-4840

### Program Information

The minor in Sustainability provides an interdisciplinary approach to sustainability, allowing students to explore the challenges of sustainability and to think about how to develop solutions to pressing issues at the local, regional, and global scale. Students will be exposed to information and experiences that increase their knowledge base of the three pillars of sustainability as reflected in the human and scientific dimensions as well as coursework on ethics and policy. The minor complements any major on campus and provides both intellectual breadth and depth in a challenging new area of inquiry that is gaining a high level of interest in businesses, government agencies, and non-governmental organizations. A minor in Sustainability and a major in a discipline will provide excellent thinking and problem-solving skills for students as a citizen, employee, or graduate student.

### Student Learning Outcomes

Upon completion of the minor in Sustainability, students will be able to:

- Define sustainability and articulate an understanding of the linkages between social, economic, and environmental perspectives.
- Recognize and assess how sustainability impacts the natural environment and human communities.
- Apply measures of sustainability and an evidence-based, interdisciplinary approach to issues of social, environmental and economic justice.

### Course Delivery Format

The program includes lecture, discussion, laboratory, field-based experiences, and online coursework.

### Requirements for Sustainability Minor: 18 Credits

- ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3
  or GEOG 447-547 - Geography of the Future (COM) Credits: 3
  or GEOG 454-554 - Sustainable Communities Credits: 3
- GEOG 111 - Sustainable Society (COM) [SGR #3] Credits: 3
- NUTR 111 - Food, People and the Environment Credits: 3
  or NRM 110 - People and the Environment Credits: 3
  or SOC 245 - Environment and Society Credits: 3

### Human Dimensions

Select three credits from the following list. Credits: 3

- ABS 203 - Global Food Systems [SGR #3] Credits: 3
- ECON 372 - Introduction to Resource and Environmental Economics Credits: 3
- ENGL 256 - Literature of the American West (COM) [SGR #4] Credits: 3
- GEOG 415-515 - Environmental Geography and Sustainability Credits: 3
- HIST 409-509 - Environmental History of the U.S. (COM) Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3
- PSYC 244 - Environmental Psychology Credits: 3
- SOC 462-562 - Population Studies (COM) Credits: 3
- WL 430 - Human Dimensions in Natural Resource Management Credits: 3

### Scientific Dimensions

Select three credits from the following list. Credits: 3

- CEE 225 - Principles of Environmental Science and Engineering Credits: 3
- CM 460-560 - Sustainable Building Systems Concepts and Analysis Credits: 3
- EES 275 - Introduction to Environmental Science Credits: 3
- GEOG 425-525 - Population Geography Credits: 3
- PS 447-547 - Organic Plant Production Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3
- RANG 205 - Introduction to Range Management [SGR #6] Credits: 3
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3

### Ethics, Law, Policy and Planning

Select three credits from the following list. Credits: 3

- AGEC 479-579 - Agricultural Policy Credits: 3
- GEOG 365 - Land Use and Planning Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- PHIL 454 - Environmental Ethics (COM) Credits: 3

**Total Required Credits: 18**

## Sustainable Energy Systems Minor

### Program Coordinator/Contact

Michael Twedt, Lecturer
Department of Mechanical Engineering
Crothers Engineering Hall 216, Box 2219
605-688-5426

### Program Information

The Sustainable Energy Systems Minor is appropriate for students interested in gaining a background in sustainability, energy efficiency, and renewable energy technologies. The minor helps to prepare graduates with training that distinguishes them from their peers and supports immediate entry into careers in energy resource development, energy production, and efficient end-use technologies.

### Student Learning Outcomes

Students completing the minor must understand how energy is produced, the fundamentals of energy conversion and efficiency, and demonstrate technical expertise in some area of sustainable energy systems. Upon completion of the minor, the student will be able to:

- apply mathematics and engineering science to the analysis of energy conversion systems.
- understand and apply the concept of sustainability to the design of energy conversion systems.
- demonstrate competency in analysis and design of a particular type of energy converting device or system.

- demonstrate the ability to work effectively in an area of sustainable energy systems.

### Course Delivery Format

Competence in Sustainable Energy Systems requires both study and practice. Instruction occurs through a combination of traditional classroom methods, laboratory exercises using contemporary engineering technologies, internship/research experiences and focused design projects.

### Requirements for Sustainable Energy Systems Minor: 18 Credits

- ME 311 - Thermodynamics I Credits: 3
  or ME 314 - Thermodynamics Credits: 3
  or PHYS 341 - Thermodynamics (COM) Credits: 2
- ME 416-516 - Renewable Energy Systems Credits: 3
- ME 478 - Mechanical Systems Design I Credits: 2 [1]
- ME 479-479L - Mechanical Systems Design II and Lab (COM) Credits: 2 [1]

### Internship or Undergraduate Research/Scholarship Experience

The internship or Undergraduate Research/Scholarship experience must be a sustainable energy systems application approved by the Coordinator of the Minor. Credits: 2-3

- ABE 494 - Internship (COM) Credits: 1-6
- ABE 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3
- EE 494 - Internship (COM) Credits: 1-3
- EE 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3
- ME 494 - Internship (COM) Credits: 1-3
- ME 498 - Undergraduate Scholarship/Research (COM) Credits: 1-3
- PHYS 494 - Internship (COM) Credits: 1-4
- PHYS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12

### Electives

- ABE 444-444L/544-544L - Unit Operations of Biological Materials Processing and Lab Credits: 4
- ABE 555-555L - Principles of Biological Separation Processing and Lab Credits: 3
- EE 430-430L - Electromechanical Systems and Lab Credits: 4
- EE 434-434L - Power Systems and Lab Credits: 3, 1
- EE 436-436L/536-536L - Photovoltaic Systems Engineering and Lab Credits: 3, 1
- ME 410-510 - Principles of HVAC Engineering Credits: 3
- ME 412-512 - Internal Combustion Engines Credits: 3
- ME 413-513 - Turbomachinery Credits: 3
- ME 414-514 - Air Pollution Control Credits: 3
- ME 415 - Heat Transfer Credits: 3
- ME 418-518 - Design of Thermal Systems Credits: 3
- ME 431-531 - Aerodynamics Credits: 3
- ME 439-439L/539-539L - HVAC System Design and Lab Credits: 3
- NE 435-535 - Introduction to Nuclear Engineering Credits: 3
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3

### Total Required Credits: 18

### Notes

[1] Project or experience must focus on sustainable energy systems and must be approved by the program coordinator. Senior capstone design projects with ABE, EE, or PHYS prefix will also satisfy the capstone project requirement.

## Sustainable Local Foods Minor

### Program Coordinator/Contact

David Wright, Department Head
Brent Turnipseed, Assistant Department Head
Hani Ghosheh, Undergraduate Teaching Coordinator
Department of Agronomy, Horticulture, and Plant Science
Raven Precision Agriculture Center 140
605-688-4600 (Department Head, SRPAC 140)
605-688-4450 (Teaching Office, SNP 247)

### Program Information

The interdisciplinary minor in Sustainable Local Foods focuses on healthful food choices and sustainable food production of locally produced vegetables and fruits. It will equip students in any major to understand the process of growing, harvesting, storage, preparation, and perceived nutritional benefits of locally produced food. Students will explore the fundamental ecological, nutritional, and social forces that influence the long-term viability of today's small-scale food production systems.

### Student Learning Outcomes

Upon completion of the Sustainable Local Foods minor, students will be able to:

- articulate the impact of different types of fruit and vegetable production systems on the concept of sustainability.
- recognize that modern food production systems are highly complex in terms of meeting the global demand for food and are driven by many economic, social, and environmental factors.
- describe how the local production of fruits and vegetables can support local economies and address issues of food insecurity and human health at the same time.
- experience hands-on activities of planning, growing, storage, preparation, and marketing of food crops.
- explain the basics of nutrient needs of humans.

### Course Delivery Format

The program coursework is available on campus, in classroom and laboratory settings, as well as field-based settings.

### Requirements for Sustainable Local Foods Minor: 18 Credits

- HO 111-111L - Introduction to Horticulture and Lab Credits: 2, 1
- HO 434-534 - Local Food Production Credits: 2
- NUTR 111 - Food, People and the Environment Credits: 3
- NUTR 221 - Survey of Nutrition Credits: 3
  or NUTR 315 - Human Nutrition (COM) Credits: 3

### Select from the following

Select a minimum of seven credits from the following. Credits: 7

- FS 101 - Introduction to Food Science Credits: 3
- HO 105 - Insects and Society Credits: 3
- HO 329 - Horticultural Pests Credits: 3
- HO 411-511 - Fruit Crop Systems Credits: 1-6
- HO/ PS 413-413L/513-513L - Greenhouse and High Tunnel Management and Lab Credits: 3
- HO 435 - Local Food Production: Harvest and Storage Credits: 2
- HO 444-544 - Vegetable Crop Systems Credits: 1-6
- HO 447-547 - Organic Plant Production Credits: 3
- NUTR 141-141L - Foods Principles and Lab Credits: 4

### Total Required Credits: 18

## Theatre Minor

### Program Coordinator/Contact

J.D. Ackman, Program Coordinator
School of Performing Arts
Oscar Larson Performing Arts Center 189J, Box 2830
605-688-5188

### Program Information

With a minor in Theatre, students will be able to develop a foundational understanding of production in a number of areas of theatre, engage in collaboration of theatre productions and develop a familiarity with historical and cultural dimensions of theatre.

### Student Learning Outcomes

With a minor in Theatre, students will be able to:

- understand and/or participate in the basic production process in all areas of theatre.
- demonstrate familiarity with historical and cultural dimensions of theatre.
- possess an understanding and appreciation of the concept of collaboration required for successful theatrical productions.
- make informed assessments of quality in theatrical performances and activities communicate effectively relative to the student's specific area of particular interest and focus, if that is the case for the individual student.
- understand the expectations and demands of the field, whether in an educational setting or the profession.

### Course Delivery Format

A wide range of course formats are available in this major including, lectures, laboratory, small group, seminar, interactive and collaborative partnerships.

### Requirements for Theatre Minor: 18 Credits

- THEA 100 - Introduction to Theatre (COM) [SGR #4] Credits: 3
- THEA 131 - Introduction to Acting (COM) [SGR #4] Credits: 3
- THEA 241-241L - Stagecraft and Lab (COM) Credits: 3
- THEA 243 - Make-Up (COM) Credits: 3
- THEA 351 - Directing (COM) Credits: 3

### Electives

Select from the following. Credits: 3

- THEA 135 - Theatre Activities - Acting Credits: 1
- THEA 145 - Theatre Activities - Technical Credits: 1
- THEA 240 - Stage Costuming (COM) Credits: 3
- THEA 250 - Play Analysis (COM) Credits: 3
- THEA 361 - Literature and History of the Theatre I (COM) Credits: 3
- THEA 364 - Literature and History of the Theatre II (COM) Credits: 3
- THEA 375 - Theatre Arts Management Credits: 3
- THEA 435 - History of American Musical Theater (COM) Credits: 3
- THEA 441 - Scene Design (COM) Credits: 3
- THEA 443 - Costume Design (COM) Credits: 3
- THEA 445-445L - Lighting and Lab (COM) Credits: 3
- THEA 452 - Stage Management (COM) Credits: 3
- THEA 455 - Advanced Acting (COM) Credits: 3
- THEA 470 - Portfolio and Resume Building Credits: 3
- THEA 480 - Summer Theatre (COM) Credits: 1-5
- THEA 492 - Topics (COM) Credits: 1-5 (3 credits required)

**Total Required Credits: 18**

## Women, Gender, & Sexuality Studies Minor

### Program Coordinator/Contact

Rebecca A. Kuehl, Associate Professor/Women, Gender, & Sexuality Studies Program Coordinator
College of Arts, Humanities and Social Sciences
Pugsley Center 115, Box 2218
605-688-4171

### Program Information

Women, Gender, & Sexuality Studies is an interdisciplinary minor program that prepares students to recognize gender and sexuality as socio-cultural constructs that intersect with other aspects of identity. Students learn how gender and sexuality shape people's lived experiences, resulting in better engagement with others. These "soft skills," such as self-awareness, adaptability, and interpersonal skills, are increasingly in demand by employers. Students are academically credentialed to analyze how institutions and policies influence and reinforce power inequities and cultural expectations about gender and sexuality. The culmination of the minor is a student-driven independent study, where students engage in critical inquiry using theoretical and methodological lenses grounded in gender and sexuality studies.

Students are able to take courses with award-winning faculty educators across a wide range of academic units and disciplines. The minor is a great complement for almost any major, including majors within the College of Arts, Humanities, and Social Sciences, which requires a minor for graduation. The minor allows students to deeply consider and value diverse experiences as they work toward promoting equity and gender justice in the world.

### Student Learning Outcomes

Graduates with a minor in Women, Gender, and Sexuality Studies will be able to:

- Recognize gender and sexuality as socio-cultural constructs that intersect with race, ethnicity, ability, nationality, and socio-economic status, among other aspects of identity;
- Analyze how institutions and policies influence and reinforce power inequities and cultural expectations about gender and sexuality; and
- Engage in critical inquiry using theoretical and methodological lenses grounded in gender and sexuality studies.

### Academic Requirements

Eighteen hours with a "C" or better in each course are required for the minor.

Various departments periodically offer courses related to women, gender, and/or sexuality studies and may be used as electives with approval by the program coordinator.

### Course Delivery Format

Program courses are taught on campus, online, and in field based settings.

### Student Support and Engagement Opportunities

The program provides enriching opportunities in classroom, campus, and community spaces, bringing exciting speakers to campus, especially during Women's History Month in March, co-sponsoring films, creative readings, science panels, and facilitating opportunities for activism. The program also sponsors the annual Dr. April Brooks Women of Distinction Awards.

### Requirements for Women, Gender, and Sexuality Studies Minor: 18 Credits

- WMST 247 - Introduction to Women, Gender, and Sexuality Studies (COM) [SGR #3] Credits: 3
- WMST 491 - Independent Study (COM) Credits: 1-4 (3 credits required)

### Electives

- Select 12 credits from at least 3 different prefixes that are cross-listed with WMST. Students may also select 3 credits from WMST 492-592, WMST 494, or WMST 498. Credits: 12

**Total Required Credits: 18**

## Youth & Community Work Minor

### Program Coordinator/Contact

Elizabeth Koob, Professional Advisor
School of Psychology, Sociology and Rural Studies
Hansen Hall 102
605-688-6296

### Program Information

In a world of rapid economic, social, and technological change, the minor in Youth and Community Work provides a strong and interdisciplinary approach for gaining applicable knowledge, developing necessary skills, and cultivating empathy for young people and their community-based needs. The minor provides students with course work that addresses the skills necessary to work in recreational programs, Boys and Girls Clubs, and other related positions in community centers, schools, churches and other non-profits. Students will gain knowledge about the need for youth to be connected to meaningful community experiences, the expertise needed to work effectively with diverse groups, and basic knowledge about the experiences and needs of young people. Students will also have experience in applying what they are learning in a real-world setting.

### Student Learning Outcomes

Graduates with a minor in Youth and Community Work will be able to:

- understand the interdisciplinary nature of the study of community and youth/adult relations;
- describe how social forces shape community, family, school and youth lives;
- comprehend the nature, aspects, and theories of organizational culture as they relate to the development and involvement of youth;
- apply applicable theories and practices to the solution of problems related to youth development and engagement including leadership development, group process and organizational development;
- value the importance of diversity in the community and workplace;
- employ a socially responsive ethical framework to youth development and engagement; and
- understand and practice professional skills related to youth programming.

### Course Delivery Format

The program offers coursework on campus, online, and at attendance centers around the state.

### Requirements for Youth and Community Minor: 18 Credits

- SOC 282 - Youth and Community Credits: 3
- SOC 283 - Working with Diverse Populations Credits: 3
- SOC 286 - Service Learning Credits: 1-3 (3 credits required)
  or SOC 494 - Internship (COM) Credits: 1-12 (3 credits required)

### Select from the following

Select nine credits from the following. Credits: 9

- CJUS 436 - Juvenile Justice (COM) Credits: 3
- ENGL 240 - Juvenile Literature [SGR #4] Credits: 3
- HDFS 237 - Human Development II: Adolescence Credits: 3
- PSYC 327 - Child Psychology Credits: 3

- PSYC 364 - Cross Cultural Psychology Credits: 3
- PSYC 414 - Drugs and Behavior (COM) Credits: 3
- RECR 101 - Parks and Society Credits: 3
- RECR 260 - Fundamentals of Sport and Recreation Leadership Credits: 3
- RECR 362 - Recreation Across the Lifespan Credits: 3
- SOC 150 - Social Problems (COM) [SGR #3] Credits: 3
- SOC 270 - Introduction to Social Work (COM) Credits: 3
- SOC 271 - Social Work Skills and Methods I Credits: 3
- SOC 325 - Domestic and Intimate Violence (COM) Credits: 3
- SOC 377 - Documentation in Practice Settings Credits: 3
- SOC 400-500 - Social Policy (COM) Credits: 3
- SOC 433-533 - Leadership and Organizations Credits: 3
- SOC 455-555 - Juvenile Delinquency (COM) Credits: 3
- SOC 492 - Topics (COM) Credits: 1-3 (3 credits required) (Drugs and Society)

**Total Required Credits: 18**

# Pre-Professional Interest Areas

## Pre-Athletic Training

### Program Coordinator/Contact

Trevor Roiger, Athletic Training Program Director
School of Health and Consumer Sciences
Wagner 135, Box 2275A
605-688-5824

### Pre-Professional Interest Area Information

The pre-athletic training curriculum is a pre-professional curriculum whereby necessary prerequisites can be completed in preparation for applying to the Master of Science (M.S.) in Athletic Training program at SDSU. Students must complete the pre-athletic training curriculum and earn a bachelor's degree in order to be eligible for the M.S. in Athletic Training. Students must also have a sound understanding of the natural sciences, social sciences, and humanities, and possess exceptional communication skills. The suggested courses listed below are essential for application to the athletic training program at SDSU and are common to other programs across the country. Acceptance into the M.S. in Athletic Training program is competitive; therefore, a strong undergraduate academic record is essential. Advisors in the School of Health and Consumer Sciences provide advising to assist each student in developing an undergraduate academic plan best-suited to help him/her transition into the athletic training program at SDSU.

### Suggested Majors

- Exercise Science (B.S.)
- Community and Public Health (B.S.)
- Biology (B.S.)
- Human Development and Family Studies (B.S.)
- Nutrition and Dietetics (B.S.)
- Psychology (B.A./B.S.)

### Suggested Coursework

#### Biology

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
  or BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3

#### Human Anatomy

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4

#### Human Physiology

- BIOL 325-325L - Physiology and Lab (COM) Credits: 4

#### Biomechanics

- EXS 454-454L - Biomechanics and Lab (COM) Credits: 3

#### Chemistry

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
  and CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
  or
  CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1
  and CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1

#### Exercise Physiology

- EXS 350 - Exercise Physiology (COM) Credits: 2-3

#### Mathematics

- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
  or HLTH 445 - Epidemiology Credits: 3

#### Nutrition

- NUTR 315 - Human Nutrition (COM) Credits: 3

#### Physics

- PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4
  or PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4

#### Psychology

- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3

#### Additional Suggested

- AT 164 - Introduction to Athletic Training (COM) Credits: 2
- EXS 354-354L - Prevention and Care of Athletic Injuries and Lab (COM) Credits: 2
- HSC 443 - Public Health Science Credits: 3

#### Clinical Observations

Although not required for acceptance into all graduate-level athletic training programs, some (including the Master of Science in Athletic Training* at SDSU) require a minimum number of observations within athletic training practice settings.

*Students interested in applying to the Master of Science in Athletic Training at SDSU are encouraged to visit the program website (http://www.sdstate.edu/hns/graduate-programs/ms-athletic-training.cfm) at their earliest convenience to learn more about the program and the application process.

## Pre-Chiropractic

### Program Coordinator/Contact

Ashley McConnell, Coordinator and Advisor
Department of Biology and Microbiology
Alfred Dairy Science Hall 225D
605-688-4805

### Pre-Professional Interest Area Information

The pre-chiropractic curriculum is compatible with many majors and includes all of the prerequisites for chiropractic college admission. Students who apply to chiropractic college must demonstrate a strong science background as well as a basic understanding of communications, social sciences and humanities. Chiropractic colleges require a minimum of 90 semester credits in general biology, general and organic chemistry, physics, communication, social sciences and humanities. Additionally, all science courses must be taken with the associated labs. Chiropractic colleges will not accept survey science courses such as BIOL 101, CHEM 106, or CHEM 108. Students must earn a grade of C or better in all specified courses and must maintain a cumulative GPA of 2.5 to be considered for chiropractic college admission. No standardized entrance examination is required. Contact the pre-chiropractic advisor for assistance coordinating major requirements with the Chiropractic college entrance requirements.

3+3 articulation agreements have been negotiated with 3 of the top D.C. programs in the country. Please see the pre-professional advisor for more information.

### Suggested Majors

- Human Biology (B.S.)
- Biochemistry (B.S.)
- Exercise Science (B.S.)
- Chemistry (B.S.)
- Nutrition and Dietetics (B.S.)
- Physics (B.S.)

### Suggested Coursework

#### Biology

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 290 - Seminar (COM) Credits: 1
- BIOL 326-326L - Biomedical Physiology and Lab (COM) Credits: 3, 1
- MICR 233-233L - Introductory Microbiology and Lab Credits: 4

**Chemistry and Biochemistry**

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1

**Physics**

- PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4

**Psychology**

- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3

**Electives**

Select at least one of the following courses.

- EXS 350 - Exercise Physiology (COM) Credits: 2-3
- EXS 454-454L - Biomechanics and Lab (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

**Additional Coursework**

- PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3

## Pre-Dental

### Program Coordinator/Contact

Marjoanne Thompson, Coordinator and Advisor
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-4563

### Pre-Professional Interest Area Information

Dental schools look for bright, articulate students in a variety of majors who have a well-rounded education and can relate to a range of personalities. Dental schools require at least three years of college, but most now require that applicants have their baccalaureate degree before they enter dental school.

Because the requirements of each dental school vary considerably, it is difficult to provide a complete listing of the necessary coursework that would satisfy every institution. Instead, the SDSU pre-dental program challenges the pre-dental student with a heavy emphasis on science courses (two years of chemistry, one year of physics, and at least three years of biology) in order to prepare the student for the Dental Admission Test (DAT). These courses do not restrict a student's ability to shift into other programs at SDSU and provide excellent career alternatives for those students who are not immediately accepted into a dental school. The Pre-professionals advisors can assist students to develop plans of study for the dental program(s) of interest.

### Dental School Admission

Admission to dental schools is extremely selective, and students who are serious about being accepted into a dental school should strive to substantially exceed the minimum requirements. Acceptance into dental school is based primarily on four criteria: 1) absolute minimum of a 3.5 GPA on the 4.0 scale, 2) Dental Admission Test (DAT) scores, 3) recommendation letters from faculty and employers, and 4) a personal statement describing the students' motivation for this career choice.

### Suggested Majors

- Human Biology (B.S.)
- Biochemistry (B.S.)
- Biotechnology (B.S.)
- Chemistry (B.S.)
- Microbiology (B.S.)
- Physics (B.S.)

### Suggested Coursework

**Biology**

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1
- BIOL 204-204L - Introduction to Cell Biology and Lab (COM) Credits: 3, 1
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 290 - Seminar (COM) Credits: 1
- BIOL 326-326L - Biomedical Physiology and Lab (COM) Credits: 3, 1
- MICR 233-233L - Introductory Microbiology and Lab Credits: 4

**Chemistry**

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1

**Mathematics**

- MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5
  or MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
  and MATH 123L - Calculus I Lab (COM) Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

**Physics**

- PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4

**Additional Coursework**

- PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3

## Pre-Law

### Program Coordinator/Contact

Lisa Hager, Assistant Professor of Political Science and Pre-Law Coordinator
School of American and Global Studies
West Hall 216, Box 510
605-688-4311

### Pre-Professional Interest Area Information

The formal academic training for law includes, with few exceptions, a bachelor's degree and three years of study in law school to earn a Juris Doctorate. Law schools welcome and encourage a variety of educational backgrounds among their students. Breadth and intellectual maturity are more important than study of particular subject matter. However, law schools do recommend that the pre-law curriculum be carefully selected.

No specific subjects are prescribed for law school admission, and thus any undergraduate major available at SDSU can prepare a student to study the law. The pre-law student should be involved in an undergraduate program that is intellectually challenging and requires rigorous academic discipline. Individuals who have chosen a field of study work with their major advisor as well as the pre-law advisor to select courses and create a plan of study.

### Suggested Coursework

An attorney must be a well-rounded individual. Reading and writing abilities are fundamental, and thus undergraduate courses that develop these skills should be stressed. A reasonable exposure to such subject areas as English composition, economics, history, literature, philosophy, political science, and sociology are typically considered foundational for the full appreciation of the law. Electives such as drama and theatre arts, debate, creative writing, and speech will sharpen those skills needed by a member of the legal profession. Additionally, courses in business, finance, and accounting are generally considered an asset to attorneys' professional practice, and many law schools expect the student to have completed at least one accounting course. Furthermore, knowledge of the physical and biological sciences will often help in the cases the lawyer pleads. In particular, certain areas of the law are only open to those with an educational training in the sciences and engineering fields.

### Law School Admissions Test

All law schools require the Law School Admissions Test, and most pre-law students take it in June between the junior and senior year or during the undergraduate senior year. It is a nationwide, half-day test of general aptitude for undertaking law studies and for writing ability. Students are encouraged to contact the pre-law advisor for more information on the LSAT and law schools of interest early in their academic career.

### Possible Majors

- American Indian and Indigenous Studies (B.A.)
- Economics (B.A./B.S.)
- English (B.A.)
- History (B.A./B.S.)
- Interdisciplinary Studies (B.A./B.S.)
- Political Science (B.A./B.S.)
- Psychology (B.A./B.S.)
- Sociology (B.A./B.S.)

## Pre-Medicine

### Program Coordinator/Contact

Marjoanne Thompson, Coordinator and Advisor
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-4563

### Pre-Professional Interest Area Information

The pre-medicine curriculum is designed to be compatible with many different majors. No particular major is required; No area of study is given preference in the selection process. Students preparing for medical careers should have a broad education and the basic understanding of the natural sciences, including mathematics, chemistry, biology, and physics. Additionally, highly developed communication skills as well as a basic understanding of the social sciences and the humanities are necessary. Advisors can assist students in creating a plan of study designed for the school(s) of choice.

### Medical School Minimum Admission Requirements

One year each of biology and physics with laboratory; mathematics, including a course in calculus; two years of chemistry with laboratory including one year of general chemistry and one year of organic chemistry or a combination of organic and biochemistry; communications (English, literature, speech); social sciences and humanities as needed to complete the baccalaureate degree. The pre-professional advisor will have knowledge of requirements for medical schools in the U.S. Pre-medicine students are encouraged to prepare to meet the entrance requirement for several medical schools of their choice.

### Medical College Admission Test

Advisors can also assist in preparing for the Medical College Admission Test (MCAT), and in the application process as handled by the American Medical College Application Service (AMCAS). Refer to the Association of American Medical School Web site at http://www.aamc.org for more specific information on the application process as well as information on specific medical schools.

### Suggested Majors

- Human Biology (B.S.)
- Biochemistry (B.S.)
- Biotechnology (B.S.)
- Chemistry (B.S.)
- Microbiology (B.S.)
- Nutrition and Dietetics (B.S.)
- Psychology (B.A./B.S.)
- Physics (B.S.)

### Suggested Coursework

#### Biology

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1
- BIOL 204-204L - Introduction to Cell Biology and Lab (COM) Credits: 3, 1
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 326-326L - Biomedical Physiology and Lab (COM) Credits: 3, 1
- MICR 233-233L - Introductory Microbiology and Lab Credits: 4

#### Chemistry

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1

#### Mathematics

- MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5 or MATH 123-123L Calculus I and Lab Credits: 4, 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

#### Physics

- PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4

#### Additional Coursework

- BIOL 290 - Seminar (COM) Credits: 1
- PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3

## Pre-Ministerial

### Program Coordinator/Contact

A. James Murphy, Associate Professor of Religion, Associate Director, and Pre-Ministerial Coordinator
School of American and Global Studies
West Hall 118, Box 510
605-688-4687

### Pre-Professional Interest Area Information

Almost all theological seminaries require some undergraduate education; most require a college degree. The best preparation for ministerial study is a thorough and broad exposure to culture - ancient and modern - literature and language, the arts and the history of ideas. Students also need to develop solid analytic abilities, facility in developing logically rigorous and sound arguments, and skills in written and oral expression. To do so, they may choose majors in the humanities or social sciences, focusing electives in religion and philosophy or select an Interdisciplinary Studies (B.A./B.S.) with cores in religion and philosophy. Consult the pre-ministerial and major advisor to create an individualized plan of study based on the entry requirements of the ministerial program of choice.

### Suggested Majors

- Communication Studies (B.A./B.S.)
- English (B.A.)
- History (B.A./B.S.)
- Human Development and Family Studies (B.S.)
- Interdisciplinary Studies (B.A./B.S.)
- Psychology (B.A./B.S.)
- Sociology (B.A./B.S.)

### Suggested Coursework

- CMST 201 - Interpersonal Communication (COM) [SGR #3] Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3
- CMST 281 - Speech and Debate Activities (COM) Credits: 1-4
- CMST 311 - Business and Professional Communication (COM) Credits: 3
- CMST 410-510 - Organizational Communication (COM) Credits: 3
- CMST 416-516 - Rhetorical Criticism (COM) Credits: 3
- CMST 470 - Intercultural Communication (COM) Credits: 3
- CHRD 353 - Ethics and the Helping Professions Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- LMNO 201 - Introduction to Leadership and Management of Nonprofit Organizations Credits: 3
- PHIL 100 - Introduction to Philosophy (COM) [SGR #4] Credits: 3
- PHIL 200 - Introduction to Logic (COM) [SGR #4] Credits: 3

- PHIL 215 - Introduction to Social-Political Philosophy (COM) [SGR #4] Credits: 3
- PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3
- PHIL 313 - Great Philosophers Credits: 2-3
- PHIL 320 - Professional Ethics (COM) Credits: 3
- PHIL 383 - Bioethics (COM) Credits: 4
- PHIL 480 - Ethics of Globalization Credits: 3
- REL 213 - Introduction to Religion [SGR #4] Credits: 3
- REL 224 - Old Testament [SGR #4] Credits: 3
- REL 225 - New Testament (COM) [SGR #4] Credits: 3
- REL 237 - Religion in American Culture [SGR #3] Credits: 3
- REL 238 - Native American Religions [SGR #4] Credits: 3
- REL 250 - World Religions (COM) [SGR #4] Credits: 3
- REL 331 - Women and Religion Credits: 3
- REL 353 - Geography of Religion (COM) Credits: 3
- REL 360 - Moral and Ethical Perspectives on Death and Dying Credits: 3
- REL 401 - Early Christian Era Credits: 3
- REL 402 - Reformations and Religious Conflict Credits: 3
- REL 454 - Environmental Ethics (COM) Credits: 3
- REL 470 - Philosophy of Religion (COM) Credits: 3

## Pre-Mortuary

### Program Coordinator/Contact

Ashley McConnell, Coordinator and Advisor
Department of Biology and Microbiology
Alfred Dairy Science Hall 225D
605-688-4805

### Pre-Professional Interest Area Information

To meet the requirements as a mortician, funeral directors need specialized training. All states require those who embalm to be licensed. This field may require from one to four years of study with students earning a diploma, Associate of Applied Science (A.A.S.) or Bachelor of Science (B.S.) degree at one of 50 accredited schools which offer programs in mortuary science. One or possibly two years of study may be taken at SDSU. Certification includes passing required board exams and an apprenticeship in an approved funeral home. Leaders of the funeral service field are rapidly recognizing the need for education of the total person. Because the funeral director's work is diverse, he/she must draw upon knowledge of the social and economic fields as well as the scientific and artistic areas which the technical needs of the profession require.

Contact M. Thompson for information related to admission requirements for Mortuary Science Schools.

### Suggested Majors

- Human Biology (B.S.)

### Suggested Coursework

### Freshman Year

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1
- CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3
- ENGL 101 - Composition I (COM) [SGR #1] Credits: 3
- MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- REL 360 - Moral and Ethical Perspectives on Death and Dying Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
- Social Science Elective Credits: 3

### Sophomore Year

- Social Science Elective Credits: 3
- Electives Credits: 9
  *Suggested Courses:*
  - *REL 213 - Introduction to Religion [SGR #4] Credits: 3*
  - *ENGL 201 - Composition II (COM) [SGR #1] Credits: 3*
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- BADM 350 - Legal Environment of Business (COM) Credits: 3
- BADM 360 - Organization and Management (COM) Credits: 3
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- CMST 201 - Interpersonal Communication (COM) [SGR #3] Credits: 3
- HLTH 443 - Public Health Science Credits: 3
- MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4

## Pre-Occupational Therapy

### Program Coordinator/Contact

Carla Anderson, Coordinator of Student Services
School of Health and Consumer Sciences
Wagner 421, Box 2275A
605-688-6145

### Pre-Professional Interest Area Information

The pre-occupational therapy program is a pre-professional curriculum whereby all the necessary prerequisites can be completed in preparation for applying to a school of occupational therapy. The School of Health and Consumer Sciences provides advising to assist each student. A strong undergraduate academic record is important. Schools of occupational therapy offer a master's degree or doctoral degree. Students must complete a bachelor's degree and certain number of required courses before applying to a professional occupational therapy program. Not all occupational therapy programs have the same prerequisites. Students should contact schools of interest to verify specific prerequisites.

### Suggested Majors

- Exercise Science (B.S.)
- Community and Public Health (B.S.)
- Human Biology (B.S.)
- Human Development and Family Studies (B.S.)
- Psychology (B.A./B.S.)
- Sociology (B.A./B.S.)

### Suggested Coursework

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- NURS 201 - Medical Terminology Credits: 1
- PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3
  or PHIL 383 - Bioethics (COM) Credits: 4
- PHTH 142 - Introduction to Physical Therapy and Occupational Therapy Credits: 1
- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3
  or SOC 150 - Social Problems (COM) [SGR #3] Credits: 3

## Pre-Optometry

### Program Coordinator/Contact

Marjoanne Thompson, Coordinator and Advisor
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-4563

### Pre-Professional Interest Area Information

The American Optometric Association has 21 accredited member schools and colleges of optometry listed by ASCO (Association of Schools and Colleges of Optometry). Students graduating from SDSU with above average grades and competitive Optometry Admissions Test (OAT) scores have been successful in the admissions process. The average GPA for successful applicants is often 3.0 to 3.5 for colleges of optometry. Students usually have completed three years of college work. The majority of students entering professional schools of optometry have completed work for the bachelor's degree. Students are encouraged to complete a bachelor's degree.

The prospective optometric student should begin as early as possible to acquire an education in the fundamental sciences with the proper selection of pre-professional courses. Required courses include physics, mathematics, English, biological science, anatomy, chemistry and psychology. A program incorporating these courses should be selected to meet the requirements of professional schools

of optometry and provide a good background for the Optometry Admissions Test. Certain optometry colleges may also require additional specific classes. For additional information and specific requirements of each college of optometry, please refer to the website for ASCO (Association of Schools and Colleges of Optometry).

It is strongly recommended that pre-optometry students contact the pre-optometry advisor as soon as possible to express an interest in optometry and create a plan of study.

### Suggested Majors

- Human Biology (B.S.)
- Biochemistry (B.S.)
- Biotechnology (B.S.)
- Chemistry (B.S.)
- Microbiology (B.S.)
- Physics (B.S.)
- Community and Public Health (B.S.)
- Economics (B.A./B.S.)

### Suggested Coursework

#### Biology

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1
- BIOL 204-204L - Introduction to Cell Biology and Lab (COM) Credits: 3, 1
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 290 - Seminar (COM) Credits: 1
- BIOL 326-326L - Biomedical Physiology and Lab (COM) Credits: 3, 1
- MICR 233-233L - Introductory Microbiology and Lab Credits: 4

#### Chemistry

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 465 - Biochemistry II (COM) Credits: 3

#### Mathematics

- MATH 123 - Calculus I (COM) [SGR #5] Credits: 4
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

#### Nursing

- NURS 201 - Medical Terminology Credits: 1

#### Physics

- PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4

#### Psychology

- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3

#### Additional Coursework

- PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3

## Pre-Physical Therapy

### Program Coordinator/Contact

Chanda Walter, Advisor
School of Health and Consumer Sciences
Wagner Hall 241, Box 2275A
605-688-6103

### Pre-Professional Interest Area Information

The pre-physical therapy program is a pre-professional curriculum whereby all the necessary prerequisites can be completed in preparation for applying to a school of physical therapy. The School of Health and Consumer Sciences provides advising to assist each student in developing a plan best suited to his/her needs. Acceptance by physical therapy schools is on a competitive basis, therefore, a strong undergraduate academic record is essential. Students must declare a undergraduate major along with the Pre-Professional curriculum. Schools of physical therapy now offer a doctorate degree program. Students must earn a bachelor's degree, have a basic science background and complete a certain number of required courses before applying to a professional physical therapy program. Not all physical therapy programs have the same prerequisites. Students should contact schools of interest to verify specific prerequisites.

### Suggested Majors

- Exercise Science (B.S.)
- Community and Public Health (B.S.)
- Human Biology (B.S.)
- Human Development and Family Studies (B.S.)
- Nutrition and Dietetics (B.S.)
- Psychology (B.A./B.S.)

### Suggested Coursework

#### Biology

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4

#### Chemistry

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1

#### Mathematics

- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

#### Physics

- PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4

#### Psychology

- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3

#### Additional Coursework

- NURS 201 - Medical Terminology Credits: 1
- PHTH 142 - Introduction to Physical Therapy and Occupational Therapy Credits: 1

## Pre-Physician Assistant

### Program Coordinator/Contact

Marjoanne Thompson, Coordinator and Advisor
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-4563

### Pre-Professional Interest Area Information

SDSU offers pre-requisite courses to students interested in gaining admission to one of the more than 120 accredited physician assistant (PA) programs in the United States. Accredited PA programs have their own distinctive features, prerequisites, and missions designed to prepare students to become effective members of a health care delivery team.

All PA programs are expected to become master's degree programs in the near future, thus earning a baccalaureate degree while completing prerequisites for the PA school(s) of your choice is strongly recommended. The general Graduate Record Exam (GRE) is a requirement for many programs.

Generally, all PA programs require one year each of general biology and general chemistry, one course each in human or animal anatomy and physiology, microbiology, biochemistry, general developmental and abnormal psychology, and statistics. All science courses need to have an accompanying laboratory. Additionally, courses required by many PA programs include medical terminology, organic chemistry (a prerequisite for biochemistry), and statistics.

A broad, general education including courses in communication, humanities, and social science is strongly recommended. Many PA schools also require a minimum of three months health care experience. An excellent source of information about accredited PA schools is the online Physician Assistant Programs Directory.

### Suggested Majors

- Human Biology (B.S.)
- Biochemistry (B.S.)
- Biotechnology (B.S.)
- Chemistry (B.S.)
- Microbiology (B.S.)
- Exercise Science (B.S.)
- Nutrition and Dietetics (B.S.)
- Psychology (B.A./B.S.)

### Suggested Coursework

#### Biology

- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 290 - Seminar (COM) Credits: 1
- BIOL 326-326L - Biomedical Physiology and Lab (COM) Credits: 3, 1

#### Chemistry

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1

#### Microbiology

- MICR 233-233L - Introductory Microbiology and Lab Credits: 4
- MICR 439-539 - Medical and Veterinary Immunology Credits: 3

#### Psychology

- PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3

#### Statistics

- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

#### Additional Coursework

- HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3
- NURS 201 - Medical Terminology Credits: 1
- NURS 323 - Introduction to Pathophysiology Credits: 3
- NURS 322 - Pharmacology Credits: 3
- PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3

## Pre-Veterinary Medicine

### Program Contact/Coordinator

David Knudsen, Professor
Department of Veterinary & Biomedical Sciences
Animal Disease Research and Diagnostic Laboratory 1122, Box 2175
605-688-5171

### Pre-Professional Interest Area Information

The SDSU Pre-Veterinary Medicine program combines academic preparation, professional veterinary advising, and opportunities for gaining practical experience. Each Pre-Veterinary student in the program is assigned an advisor who is a veterinarian from the SDSU Department of Veterinary & Biomedical Sciences. Along with academic advising, this veterinary advisor will assist the student in the planning and preparation of an effective veterinary college application. The Pre-Veterinary Medicine program does not offer an academic degree within the program. While in the program, students also pursue a bachelor's degree in a related field. In addition to veterinary advising from the Pre-Veterinary Medicine program, the student is also assigned an advisor in the home department for their selected major.

Admission to colleges of veterinary medicine (CVM) is both competitive and selective. A solid foundation in the sciences is basic to success in the veterinary profession, as are less tangible skills gained during Pre-Veterinary Medicine preparation, such as effective leadership and teamwork skills, time management, and priority setting. Scholastic performance in science prerequisite coursework, scores on aptitude tests such as the Graduate Record Exam (GRE), and achievement in campus and community activities are all used in the selection process for admission to a CVM. During the Pre-Veterinary preparatory period, animal health and veterinary experiences are important to the Pre-Veterinary Medicine student and highly valued by CVM admission committees. This experience can be gained by volunteering or working at veterinary practices throughout the region, or through available part-time employment at the SDSU Animal Disease Research and Diagnostic Laboratory or elsewhere on campus.

SDSU also offers an academic Animal Health Minor designed to benefit Pre-Veterinary Medicine program students by encouraging them to complete electives in biomedical sciences and infectious disease while here at SDSU. These courses foreshadow much of the professional curriculum at any CVM. By making at least some areas of study easier at the professional school level, the student's eventual success in that curriculum, and as veterinarians, can be enhanced.

### Suggested Majors

- Animal Science (B.S.) - Science Specialization
- Biology (B.S.)
- Biotechnology (B.S.)
- Dairy Production (B.S.)
- Microbiology (B.S.)
- Wildlife and Fisheries Sciences (B.S.)

### Suggested Coursework

#### Biology

- AS 332 - Livestock Breeding and Genetics Credits: 4
- BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4
- BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4
- VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4
- MICR 233-233L - Introductory Microbiology and Lab Credits: 4

#### Chemistry

- CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3

#### Humanities and Social Sciences

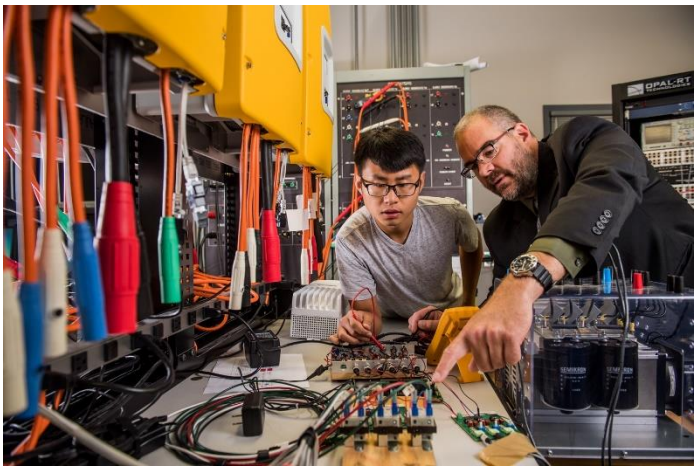
- Written Communication and Oral Communication: Credits: 9
- Humanities and Social Sciences: Credits: 9 (including courses from three of the following disciplines: Anthropology, Art, Drama, Economics, Geography, History, Literature, Music History, Music Theory, Philosophy, Psychology, or Sociology)
  NOTE: music performance or foreign language credits are generally not accepted for CVM admission.

#### Mathematics

- MATH 114 - College Algebra (COM) [SGR #5] Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3

#### Physics

- PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4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SOUTH DAKOTA
STATE

# Course Information


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## Course Descriptions

ENGL[1] 283[2] Introduction to Creative Writing[3] (COM)[4] [SGR #1][5] Credits: 3[6]
This course introduces students to the craft of writing, with readings and practice in at least two genres (including fiction, poetry, and drama). Prerequisites: ENGL 101.[7]

1. Course subject.
2. Course number.
3. Course title.
4. Common course within the South Dakota Board of Regents System.
5. Course meets System General Education Requirement.
6. Number of credits assigned to the course. One credit is usually interpreted as one hour of class work per week or as two to four hours of lab work per week.
7. A brief description of the course. This section includes other information affecting your enrollment in the course. A course description might include prerequisites, co-requisites, and registration restrictions. Other information included in various course descriptions would be: "Alternate years," "Not open to majors," "May be repeated for a total of six credits," etc.

## Course Numbering

(SDBOR Policy 2:8, section 1)

### Pre-College Courses

| | |
|---|---|
| 001-099 | Pre-college, remedial skills, special improvement (non-degree credit) |

### Undergraduate Courses

| | |
|---|---|
| 100-199 | Freshman level |
| 200-299 | Sophomore level |
| 300-399 | Junior level |
| 400-499 | Senior level (may be dual listed with 500-level graduate course) |

### Graduate Courses

| | |
|---|---|
| 500-599 | Entry level graduate (may be dual listed with a 400-level undergraduate course and may include limited enrollment by undergraduates) |
| 600-699 | Graduate level (undergraduate enrollment only by exception) |
| 700-799 | Graduate level (Graduate students only) |
| 800-899 | Doctoral and post-doctoral level (Doctoral and post-doctoral students only) |

## Course Types/Instructional Methods

(SDBOR Academic Affairs Guidelines 5.4)

### Clinical Experience

- This course entails provision of direct patient care in a clinic-based setting.
- Through observation and treatment of patients, students focus on developing specific skill sets designed to improve health (physical and/or mental).
- Oversight and instruction are provided by a faculty member and/or approved site supervisor.
- Enrollments are small (1 to 9) due to the inherent nature of this experience.

### Clinical Laboratory

- Learning takes place in a clinical laboratory, an operation which conducts diagnostic tests performed on samples taken on/from the human body.
- These clinical laboratories may be free-standing or situated within hospitals or medical clinics.
- Faculty members are heavily involved; they maintain direct and close supervision of students.
- Enrollment is limited; it varies from 1 to 9 students.

### Competency-Based/Self-Paced Study

- Each enrolled student advances at his/her preferred rate.
- Successful mastery of content is based on achievement of competencies as opposed to completion of assignments.
- Student progression through course content is often assisted by technology.
- Individual or group tutorials may be provided to supplement individual learning.

### Design/Research

- This course focuses on designing and conducting research; a viable and appropriate plan is developed as a collaborative effort between faculty member and student.
- Interaction between faculty member and student researcher is both extensive and intensive.
- This instructional method is not intended for either research methods courses (which are grounded in theory) or graduate thesis/dissertation courses.

### Discussion/Recitation

- Communication between the faculty member and students is two-way; all are participants who actively share experiences, ideas, viewpoints, and feedback.
- Student involvement is strong; it entails conversation, dialogue, and/or debate.
- Enrollment maximum is typically 35 students.

### Experiential Learning

- This course entails discovery learning in a specified area or discipline; through dedicated participation, students derive personal understanding and attach particular meaning to acquired experiences.
- Focus is placed on the learning process itself, not preconceived learning outcomes; the contrast to traditional instruction presents a defining element of this method.
- Learning is inductive, student-centric, and activity-oriented. Throughout, participants critically assess the experience, draw useful conclusions, and anticipate application of such knowledge to future situations. The assigned faculty member assumes a role of mentor/coach.
- Geared toward participation-based experiences such as service learning and job shadowing.

### Independent Study

- The format is individualized; content is tailored to the student(s) and particular situation.
- Enrollment varies; typically, however, section size is small (1 to 5 students).
- For each section, a suitable plan of study and meeting schedule are negotiated and established.

### Internship/Practicum

- This field-based learning experience is monitored and supervised; examples include discipline-specific field work, student teaching, and cooperative education.
- Students acquire relevant, real-world experience; each follows a prearranged plan of study.
- Such experience may or may not be associated with payment of wages.
- Enrollment is variable; it depends on factors such as availability of placements, requisite level of supervision, etc.

### Laboratory

- Course instruction takes place in a specialized physical setting – that is, the laboratory.
- The laboratory component complements the lecture; instruction promotes hands-on application of concepts presented during lectures.
- Enrollment maximum varies, but typically does not exceed 25.

### Lecture

- Content is largely rooted in facts, principles, ideas, and theory.

- Communication is primarily one-way; the faculty member formally relays information, while students listen.
- Classes can be sizable; enrollment maximums – which widely vary – depend on course level, discipline, and university preference.

### Music Ensemble, Large

- Intended for large groups, either instrumental or vocal in nature; examples include band, orchestra, and choir.
- Enrollments vary (10 or greater students) with regularly scheduled instructional meetings and/or faculty-led practices.
- Performers can register for a credit bearing or non-credit bearing experience; however, those who are enrolled for 0 credits must also register for other courses which are credit bearing.

### Music Ensemble, Small

- Intended for small groups, either instrumental or vocal in nature.
- The course involves regularly scheduled instructional meetings and/or faculty-led practices.
- Enrollments vary between 3 and 9 students (trio, quartet, quintet, etc).

### Physical Education Activity

- This course is devoted to participation in/performance of a physical activity; faculty instruction includes proper form and technique.
- The enrollment maximum varies, depending on factors such as nature of the particular sport, availability of venue and equipment, and safety considerations.

### Private Instruction

- This course centers on personalized training; two common examples include music performance and flight instruction.
- Course content is consistent with prescribed learning outcomes; it is not negotiable.

### Seminar

- A highly focused and topical course with strong, direct faculty-student interaction.
- The course features significant emphasis on student exploration of scholarly literature; research; and professional challenges, problems, and practices.
- This instructional method is exclusive to graduate and upper level undergraduate (300, 400) course work.
- The enrollment maximum is typically 20 students.

### Small Group

- Because of known and ongoing constraints, section size is extremely limited; such constraints are physical in nature; they tie to limited numbers of work stations, specimens, crucial pieces of equipment, etc.
- Section size is restricted to 9 or fewer students; because of inflexible physical constraints, teaching 10 or more is impossible.

### Studio

- Course content compels significant one-to-one student/instructor interaction; the course is very hands-on with extensive student engagement.
- This instructional method is intended for fine arts courses that fit with criteria specified in bullet #1; possible content areas include ceramics, painting, dancing, etc.

### Thesis

- A formal treatise presenting the results of study, which is submitted in partial fulfillment of the student's degree requirements.
- The faculty thesis director is a strong presence; he/she provides considerable mentoring, guiding, and directing. Members of the thesis committee engage in more limited – but still important - interaction with the student.
- Should the student not complete all thesis requirements in the current term, a transitional grade (see BOR 2:10) must be assigned.

### Thesis/Research Sustaining

- This 0-credit course is used to track students who are actively conducting graduate research, but not registered for credit-bearing course work during the current term.
- Enrollment allows graduate programs to retain active status.
- Caution is strongly advised; administrative oversight is imperative.

### Travel Study

- Intended for a travel experience that is structured, academic, and university-sponsored with clearly established, onsite faculty leadership.
- Faculty member guides students through a progression of cohesive, theme-based learning environments; shares contextual information, motivates guided inquiry, and facilitates debriefing.
- Interactive instruction heavily relies on engagement of students with comparison of information and observations as well as sharing of insights and reactions.

### Workshop

- A very intense, rigorous academic experience, focusing on a specific, narrowly tailored topic of current interest and professional relevance.
- Each credit hour requires approximately 45 hours of student work.
- Workshops may vary in time range but typically use a compressed time-period for delivery. They may include lectures, conferences, committee work, and group activity.
- The workshop is typically used in graduate level instruction; use of the workshop at the undergraduate level is approved on rare, limited basis with appropriate justification.
- No more than 3 graduate credit hours in any graduate program can be a workshop (see SDBOR Policy 2:8).

## Other Important Definitions

### Common Course Numbering

The South Dakota Regental institutions utilize common course numbering. A common course (COM) is a course offered by one Regental institution that has essentially the same content (subjects/breadth) and level of instruction (depth) as a course offered by at least one other Regental university. Any courses on the following pages without the COM designation are considered to be unique to SDSU.

### Cross-listed Courses

A cross-listed course is a course which carries more than one course prefix (i.e., HIST, POLS, GEOG) with credit being offered under any one of the listed prefixes at the same time. Students choose to take the course under the prefix that is more beneficial to their course of study. All students typically meet at the same time in the same place, with the same instructor(s). A cross-listed course may also be multi-numbered.

### Dual Numbered Courses

A multiple-numbered course is a single course specifically designed for simultaneous delivery at two or more levels with the two or more numbers taught simultaneously. The course is offered for credit at different levels (i.e., courses may be offered for upper/lower division credit or for undergraduate/graduate credit). Different levels of expectations are stated for the students via the syllabi. The dual-numbered course may also be cross-listed.

## x9x Common Course Descriptions

(SDBOR Academic Affairs Guidelines 1.11, section 4)

The following middle digit 9 course numbering scheme is used in the South Dakota public university system. These courses may have multiple sections. A section's title may or may not reflect the material covered in that section. See the academic department for section information, e.g., description, prerequisites such as instructor or department consent, GPA required, junior or senior standing, etc.

| | |
|---|---|
| x90 | Seminar |
| x91 | Independent Study |
| x92 | Topics |
| x93 | Workshop |
| x94 | Internship |
| x95 | Practicum |
| x96 | Field Experience |
| x97 | Cooperative Education |
| 498 | Undergraduate Research/Scholarship |
| 788 | Master's Research Problems/Projects |
| 789 | Master's Research Problems/Projects Sustaining |
| 798/898S/898D | Thesis/Dissertation |
| 799/899S/899D | Thesis Sustaining/Dissertation Sustaining |

### x90 Seminar

A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. A seminar may occur over electronic media such as the Internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

### x91 Independent Study

Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study including significant one-on-one student/teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually three or fewer students. Meetings depend upon the requirements of the topic.

### x92 Topics

Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists experts may serve as instructors. Enrollments are usually 10 or fewer students with significant one-on-one student/teacher involvement.

### x93 Workshop

A very intense, rigorous academic experience, focusing on a specific, narrowly tailored topic of current interest and professional relevance. Each credit hour requires approximately 45 hours of student work. Workshops may vary in time range but typically use a compressed time-period for delivery. They may include lectures, conferences, committee work, and group activity. The workshop is typically used in graduate level instruction; use of the workshop at the undergraduate level is approved on rare, limited basis with appropriate justification. No more than 3 graduate credit hours in any graduate program can be a workshop (see Board Policy 2:8).

### x94 Internship

Applied, monitored, and supervised, field-based learning experience for which the student may (or may not) receive payment. Students gain practical experience; they follow a negotiated and or directed plan of study. Instructors provide a higher level of supervision than provided by instructors in Field Experience courses.

### x95 Practicum

Applied, monitored, and supervised, field-based learning experience for which the student may (or may not) receive payment. Students gain practical experience; they follow a negotiated and or directed plan of study. Instructors provide a higher level of supervision than provided by instructors in Field Experience courses.

### x96 Field Experience

Applied, monitored, and supervised, field-based learning experience for which the student may (or may not) receive payment. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, the instructor provides a lower level of supervision in these courses than is the case with an Internship or Practicum course.

### x97 Cooperative Education

Applied, monitored, and supervised, field-based learning experience for which the student may (or may not) receive payment. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, the instructor provides a lower level of supervision in these courses than is the case with an Internship or Practicum course.

### 498 Undergraduate Research/Scholarship

(Includes Senior Project and Capstone Experience): Independent research problems/projects or scholarship activities. The faculty member and student negotiate the plan of study. Contact between the faculty and student may be extensive and intensive. Does not include theoretical research courses.

### 788 Master's Research Problems/Projects

Independent research problems/projects that lead to a research or design paper but not to a thesis. The faculty member and candidate negotiate the plan of study. Contact between the faculty member and candidate may be extensive and intensive. Does not include theoretical research courses.

### 789 Master's Research Problems/Projects Sustaining

A zero credit hour instructional method type used to track students who are not currently working with faculty on thesis or doctoral activities. Universities may require students to register under this instructional method type to remain active degree candidates.

### 798/898S/898D Thesis/Dissertation

A formal treatise presenting the results of study submitted in partial fulfillment of the requirements for the applicable degree. The process requires extensive and intensive one-on-one interaction between the candidate and a faculty member with more limited interaction between and among the candidate and other members of the committee.

### 799/899S/899D Thesis Sustaining/Dissertation Sustaining

A zero credit hour instructional method type used to track students who are not currently working with faculty on thesis or research activities. Universities may require students to register under this instructional method type to remain active degree candidates.

## Course Schedules

- Browse Classes

  **Contact Information:**
  Registrar's Office, Enrollment Services Center (SESC), PO Box 511

  605-688-6195

- Lifelong Learning/Non Credit Course Offerings

# Course Descriptions

## ABE (Agricultural & Biosystems Engineering)

**ABE 101 - Introduction to Agricultural and Biosystems Engineering Credits: 1**
Introduction to careers in and applications of engineering to biological systems. Emphasis is on engineering with plant, animals, and soil based systems and on the properties of biological materials.

**ABE 132 - Engineering Tools for Agricultural and Biological Engineers Credits: 1**
Familiarization with the equipment and systems common to agricultural and biological engineering. Introduction to measurement and analysis of parameters affecting engineered components and systems, including tolerance accumulation and external factors. Use of electronic spreadsheets will be developed as an engineering tool for programming and analysis of engineering data from natural resource, bio-processing, and equipment design.

**ABE 222 - Project Development for Agricultural and Biological Engineers Credits: 1**
Introduction to project development. A project oriented experience including problem definition, literature review, development of the state of the art, identification of knowledge or utility gaps, and valuation of the problem. Project objectives are developed and narrowed to performance criteria. Development of a budget to fill the gap identified, as is a project timeline in the form of a Gantt Chart to reach the identified objectives. A formal written and oral presentation of the project proposal is required.

**ABE 291 - Independent Study (COM) Credits: 1-6**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**ABE 314-314L - Ag Power and Machines and Lab Credits: 4**
Analysis and design of off-road vehicles and field machines. Includes engines, transmissions, traction, hitches, and hydraulic systems, as well as equipment for liquid and dry material applications. Prerequisites: EM 215. Corequisites: ABE 314L-314.

**ABE 324-324L - Ag Structures and Indoor Environment and Lab Credits: 4**
Course is divided into two parts emphasizing design of wood structures and environmental control in animal housing. Loads, structural analysis (statically determinate and indeterminate systems), and wood and wood panel properties are introduced. Design of beams, columns, beam-columns, trusses, sheathing, and diaphragms are emphasized with mechanical fasteners. Desired animal production space (thermal environment and indoor air quality) for production, health, and welfare are discussed. Heating and cooling loads are emphasized along with sizing equipment, fans, inlets, heat exchangers, controls, etc.) to maintain the desired animal production space Prerequisites: ME 314, EM 331 or concurrent. Corequisites: ABE 324L-324.

**ABE 343-343L - Engineering Properties of Biological Materials and Lab Credits: 3**
Engineering Properties of biological and interacting materials within a system. Relationships between composition, structure, and properties of various biomaterials including food and plant and animal tissues. Definition and measurement of mechanical, physical, thermal and electromagnetic properties and their variability. Use of these properties in engineering applications. Corequisites: ABE 343L-343.

**ABE 350-350L - Hydraulic and Pneumatic Systems and Lab Credits: 3**
Fluid properties, pumps, actuators, valves and their selection and performance in hydraulic circuits. Open center, closed center, load sensing and pressure compensated circuits. Proportional electro-hydraulic values and closed-loop control in hydraulic circuits. Corequisites: ABE 350L-350 and (ME 311 or ME 314).

**ABE 411 - Design Project III Credits: 2**
Procedures, theory, concepts and design of equipment for agricultural production or ag product processing applications. The integration of design principles with design projects and reports. Notes: Senior standing.

**ABE 422 - Design Project IV Credits: 2**
Procedures, theory, concepts and design of equipment for agricultural production or ag product processing applications. The integration of design principles with design projects and reports. Notes: Senior standing.

**ABE 434-434L/534-534L - Natural Resources Engineering and Lab Credits: 4**
Precipitation, infiltration, evapotranspiration and runoff from small agricultural watersheds and application to design of conservation structures, water erosion control practices. Design of drainage and irrigation systems. Feedlot pollution control principles. Corequisites: ABE 434L-434 and EM 331.

**ABE 444-444L/544-544L - Unit Operations of Biological Materials Processing and Lab Credits: 4**
Transport processes of heat and mass are applied to the following unit operations: evaporation, drying, gas liquid separation processes (humidification cooling towers), vapor-liquid separation processes (distillation), soil-liquid separation processes (leaching), membrane separations (ultrafiltration, reserve osmosis), mechanical separation processes, extrusion. Prerequisites: Senior standing or consent. Corequisites: ABE 444L-444/544L-544.

**ABE 463-463L - Instrumentation for Agricultural and Biological Systems and Lab Credits: 3**
Measurement systems for strain, flow, pressure, displacement, and temperature as related to measurements for physical and biological systems are introduced with error analysis. The dynamic characteristics of the measurand measurement system explored and the interaction of the dynamic characteristics of the measurand with the measurement system is discussed. Filters, amplifiers, logic circuits, and input circuitry analysis and use are emphasized. Signal conditioning required for digital data acquisition is introduced. Prerequisites: EE 300. Corequisites: ABE 463L-463.

**ABE 464-464L - Monitoring and Controlling Agriculture and Biological Systems and Lab Credits: 2**
Data acquisition, processing, and analysis for agriculture and biological applications using a computer based system. Application of electronic instrumentation, LabView software programming. Introduction to CAN bus technology, proportional-integral-derivative (PID) controllers, and programmable logical controllers. Prerequisites: ABE 463. Corequisites: ABE 464L-464.

**ABE 490 - Seminar (COM) Credits: 1**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division graduate levels. Enrollment is generally limited to fewer than 20 students.

**ABE 491 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meeting depending upon the requirements of the topic.

**ABE 492-592 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ABE 494 - Internship (COM) Credits: 1-6**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than in the case with field experience courses.

**ABE 496 - Field Experience (COM) Credits: 1-6**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**ABE 497 - Cooperative Education (COM) Credits: 1-6**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**ABE 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**ABE 543 - Fundamentals of Bioprocessing Credits: 3**

**ABE 551 - Fundamentals of Conversion Credits: 3**

**ABE 553 - Biochemical Engineering for Renewable Resources Credits: 3**

**ABE 555-555L - Principles of Biological Separation Processing and Lab Credits: 3**

**ABE 590 - Seminar (COM) Credits: 1**

**ABE 592 - Topics (COM) Credits: 1-3**

**ABE 632 - Environmental and Ecological Risk Assessment Credits: 3**

**ABE 662 - Life Cycle Assessment Credits: 3**

**ABE 732 - Advanced Hydrology in Agriculture Credits: 3**

**ABE 733 - Ground Water Engineering in Agriculture Credits: 3**

**ABE 734-734L - Advanced Irrigation Engineering and Lab Credits: 3**

**ABE 738 - Computer Models in Water Resources Management Credits: 3**

**ABE 748 - Bioseparations Credits: 3**

**ABE 752 - Theoretical Micro-Climatology Credits: 2**

**ABE 754-754L - Advanced Unit Operations of Food/Biomaterials Processing and Lab Credits: 3**

**ABE 763-763L - Instrumentation Credits: 3**

**ABE 765 - Advanced Biomass Thermochemical Conversion Credits: 3**

**ABE 771 - Graduate Seminar Credits: 1**

**ABE 788 - Research Report/Design Paper (COM) Credits: 1-2**

**ABE 790 - Seminar (COM) Credits: 1-3**

**ABE 791 - Independent Study (COM) Credits: 1-3**

**ABE 792 - Topics (COM) Credits: 1-3**

**ABE 798 - Thesis (COM) Credits: 1-7**

**ABE 898D - Dissertation PhD (COM) Credits: 1-12**

## ABME (Agricultural, Biosystems & Mechanical Engineering)

**ABME 898D - Dissertation (COM) Credits: 1-12**

## ABS (Agriculture & Biological Sciences)

**ABS 119 - First Year Seminar Credits: 2**
First-year seminar course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society.

**ABS 203 - Global Food Systems [SGR #3] Credits: 3**
Introduction to global food systems and agricultural diversity. Food production techniques, economics, society/cultural values, and agricultural constraints in several countries will be studied. The course is team taught with faculty from Economics, Animal and Range Sciences, and Plant Science. Notes: Course meets SGR #3.

**ABS 205 - Biotechnology in Agriculture and Medicine Credits: 2**
This course will provide a means for students in various majors to gain an understanding of the rapidly emerging, multidisciplinary research and applications in biotechnology, and to learn of potential career directions and training opportunities in biotechnology-related fields. Course materials and lectures will change each year to keep up with the changing technology. Guest lecturers will provide the best expertise available. Internet assistance is necessary to provide resource materials and new publications. Course will be open to all students.

**ABS 291 - Independent Study (COM) Credits: 1-6**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**ABS 292 - Topics (COM) Credits: 1-6**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**ABS 475-475L - Integrated Natural Resource Management and Lab Credits: 3**
A capstone course that requires students to integrate previously-learned natural resource techniques and information into the strategic planning process. Students will be divided into small groups for plan development. Various majors are involved to allow for integrated course material. Lab to accompany ABS 475. Prerequisites: Senior standing. Corequisites: ABS 475L-475.

**ABS 482-582 - International Experience Credits: 2-4**
Students will work one on one or in small groups with professors that have knowledge of the global region and culture that will be visited. Students will participate in a travel/study abroad experience to another nation(s) to experience and evaluate diverse food/agricultural systems. Notes: For the Bachelor's degree, a maximum of 8 credits is allowed for an international travel/study experience (ABS 482). ABS 203 is recommended.

**ABS 491 - Independent Study (COM) Credits: 1-6**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**ABS 492 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ABS 494 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**ABS 705 - Research Methodology Credits: 1-10**

**ABS 792 - Topics (COM) Credits: 1-6**

## ACCT (Accounting)

**ACCT 210 - Principles of Accounting I (COM) Credits: 3**
A study of fundamental accounting principles and procedures such as journalizing, posting, preparation of financial statements, and other selected topics. Accounting is emphasized as a service activity designed to provide the information about economic entities that is necessary for making sound decisions.

**ACCT 211 - Principles of Accounting II (COM) Credits: 3**
A continuation of ACCT 210 with emphasis on partnership and corporate structures, management decision-making, cost control, and other selected topics. Prerequisites: ACCT 210.

**ACCT 310 - Intermediate Accounting I (COM) Credits: 3**
Involves the intensive study of financial accounting standards, both in theory and practice, as they relate to the preparation and analysis of financial statements. Accounting problems and their impact on the financial statements are addressed in regard to current assets, fixed assets, intangible assets, liabilities, and other selected topics. Prerequisites: ACCT 211.

**ACCT 311 - Intermediate Accounting II (COM) Credits: 3**
Provides an intensive study of accounting standards, both in theory and practice, as they relate to the preparation and analysis of financial statements. Accounting problems and their impact on the financial statements are addressed in regard to liabilities, investments, stockholders' equity, leases, pensions, tax allocation and other selected topics. Prerequisites: ACCT 310 or instructor consent.

**ACCT 320 - Cost Accounting (COM) Credits: 3**
The study of principles and techniques for accumulating, reporting, and analyzing cost information for decision-making and external reporting. The use of cost accounting systems for planning and controlling cost responsibility centers is emphasized. Consideration is given to the appropriate use of various cost accounting methods such as activity-based costing, target costing, and just in time management techniques in service and manufacturing industries. Prerequisites: ACCT 211.

**ACCT 430 - Income Tax Accounting (COM) Credits: 3**
Involves the study of Federal Income Tax law as it affects individuals, as well as other selected topics. Prerequisites: ACCT 211.

**ACCT 450 - Auditing (COM) Credits: 3**
Studies both theory and practice. Topics include audit planning, internal control, audit procedures, audit reports and opinions, materiality, audit risk, evidential matter, as required by generally accepted auditing standards (GAAS), professional ethics, legal responsibilities, and other selected topics. Prerequisites: ACCT 311 or instructor consent.

**ACCT 491 - Independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**ACCT 492-592 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ACCT 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**ACCT 792 - Topics (COM) Credits: 1-3**

## ACS (Academic & Career Success)

**ACS 102 - Exploratory Studies Credits: 2**
This course provides guidance and experiences in decision-making, self-assessment, academic exploration and career planning for students who are uncertain of their choice of major and are in the Exploratory Studies program. Both lecture and lab experiences are included with the goal of student selection of a major by the end of the first-year of study.

**ACS 111 - Strategies for Academic Success Credits: 1**
An academic intervention course for students who have been readmitted to SDSU following academic suspension. This course addresses critical academic and life skills that students will be able to utilize to support their success at SDSU. Through interaction with the instructor, meetings with an assigned Peer Mentor, and presentations from departments across campus – students will become proactive, responsible self-advocates for their academic and personal goals.

**ACS 119 - First Year Seminar Credits: 2**
First-year seminar course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society.

**ACS 140 - Academic Recovery Credits: 1**
Early intervention course designed to assist students on academic probation. Through utilization of strategies which strengthen skills required for greater academic success, the course empowers students to become proactive, responsible self-advocates for their academic careers and goals.

**ACS 143 - Mastering Lifetime Learning Skills Credits: 2**
Instruction to enhance learning in a college environment and throughout life. Topics include organizational and time management skills, strategies to improve learning, a recognition of learning styles and creating positive learning environments.

**ACS 219 - Transition Year Seminar Credits: 2**
Transition-year seminar course is designed to assist returning students (non-traditional, adult and transfer) with transitioning to the university. The course will address academic success strategies, identification of university resources, guidance in academic planning and engagement, on-going time management and goal-setting. Students will also further investigate wellness topics, contemporary issues, diversity and the university mission.

**ACS 280 - Peer Mentoring Credits: 1**
This course provides training for peer mentors on mentoring techniques, roles in the peer mentoring relationship, and peer leadership. Areas of emphasis include mentor and mentee responsibilities, confidentiality, leading mentoring meetings, communication skills, learning styles, mentoring diverse student populations, and study skills.

**ACS 282 - Tutoring the College Student Credits: 1-3**
Instruction to train peer tutors on tutoring techniques, roles in the tutoring relationship, and peer leadership. Areas of emphasis include tutor and tutee responsibilities, confidentiality, leading tutoring sessions, communication skills, learning styles, tutoring diverse student populations, study skills, and tutoring skills. Prerequisites: Written consent (must be employed as a tutor at SDSU).

**ACS 286 - Service Learning (COM) Credits: 2**
Service learning involves the integration of academic learning, relevant service with community partners, purposeful civic engagement and structured reflection for the purpose of enriching the learning experience and increasing student involvement in community service. The academic study may be in any discipline. Open to all majors.

**ACS 291 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**ACS 294 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**ACS 382 - Theory and Practice of College Peer Tutoring Credits: 1-3**
Instruction to train peer tutors on advanced tutoring skills and techniques and on practices for facilitating peer helping relationships. Topics will build on those covered in the Level I tutor training course. Areas of emphasis include role modeling; intercultural communication; probing questions; referral skills; and using resources, critical thinking, educational theory, and leadership theory. Prerequisites: ACS 282 and written consent (must be employed as a tutor at SDSU).

**ACS 394 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**ACS 482 - Applied Leadership Training for Tutors Credits: 1-3**
Instruction to train peer tutors on tutoring techniques, roles in the tutoring relationship, and peer leadership. Areas of emphasis include mentoring new tutors, role modeling, leadership, assertiveness, group dynamics, group management, planning a workshop, and conducting meetings. Prerequisites: ACS 382 and written consent (must be employed as a tutor at SDSU).

**ACS 489 - Transition to Careers Credits: 1**
Junior and Senior level students will learn strategies required to make a successful transition from student life to career. The course will include information on job search skills, resume development, professional ethics, lifelong learning, workplace behavior and diversity issues.

**ACS 492 - Topics (COM) Credits: 1-2**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**ACS 494 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**AGEC 294 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**AGEC 394 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

## ADV (Advertising)

**ADV 314 - Digital Promotions Credits: 3**
Explore digital and shopper marketing strategies that impact consumers on the path to purchase. Gain experience exploring digital, mobile, and retail promotion through applied learning projects that connect students with industry professionals.

**ADV 370 - Advertising Principles (COM) Credits: 3**
Study of advertising as an institution. Discussion of historical foundations, economics, social consequences, structure, planning, execution and evaluation phases of the advertising process. Discussion of advertising as it relates to other types of marketing communication.

**ADV 371-371L - Advertising Copy and Design and Studio (COM) Credits: 3**
Discussion of principles and techniques for developing creative campaigns. Laboratory assignments apply thinking, design, and writing skills to creative problems for different media and different targets. Encompasses creative development for all advertising media. Prerequisites: MCOM 220-220L or MCOM 370. Corequisites: ADV 371L-371.

**ADV 372-372L - Advertising Media Strategies and Lab Credits: 3**
Learn theory and fundamentals of evaluating advertising media. Analyze marketing variables, media characteristics, sources and strategies. Use computer planning models. Assigned range of planning problems and develop media plan within an integrated marketing framework. Hands-on application of advertising media strategies. Prerequisites: ADV 370. Corequisites: ADV 372L-372.

**ADV 411-411L - Media Analytics and Studio Credits: 3**
Students will gain an understanding of industry trends, terminology, planning, and measurement models related to traditional, social and emerging media environments. The studio provides hands-on application of media analytic principles. Corequisites: ADV 411L-411. Cross-Listed: PUBR 411-411L.

**ADV 442-442L - Integrated Marketing Communication and Campaigns Studio (COM) Credits: 3**
The capstone course of the advertising sequence. Use case study method and develop complete integrated communication plan for client. Make formal advertising campaign presentation. Hands-on application of integrated marketing communication campaigns. Corequisites: ADV 442L-442. Cross-Listed: PUBR 442-442L.

**ADV 472 - Research and Planning (COM) Credits: 3**
Research is a foundation for development of work within advertising, public relations, and journalism. This course is an applied learning class where students gain experience planning and implementing media and marketing research related to their area of study. Modern methods of qualitative, quantitative, and digital research are explored through hands-on learning. Cross-Listed: PUBR 472.

**ADV 476-576 - Global and Multicultural Advertising Credits: 3**
This course develops an understanding of global and multicultural advertising and marketing. Students gain experience in decisions that reflect an understanding of global and multicultural markets and explore the social and ethical issues in such advertising and marketing.

**ADV 489 - Portfolio Development Credits: 1-3**
Explore the requirements for a portfolio based on area of study. Students create portfolio elements ranging from written content, design, photography and video to digital campaigns. Industry professionals will mentor and critique elements of the portfolio. Students within any area of communication and journalism, marketing and design are welcome.

**ADV 492 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ADV 692 - Topics (COM) Credits: 1-3**

## AGEC (Agricultural Economics)

**AGEC 271 - Farm and Ranch Management Credits: 3**
Farm or ranch business from the viewpoint of sustainable profit and efficiency. Application of business and economic principles to a portfolio of enterprises, scale of production, size of business, capital investments, and efficiency. Business planning, including records and data management and financial analysis for current and future operations. Prerequisites: One course from MATH except 021, 095, 101, 100T.

**AGEC 274 - Agribusiness Sales Credits: 3**
This course focuses on helping students develop the skills and qualities needed to address the new demands of production and input technologies and e-Commerce platforms in the agricultural sales arena. Primary areas of study include principles of professional sales, sales management in agribusinesses, institutional differences between agricultural and non-agricultural marketing environments, and different approaches to sales based on clients, including feed and food ingredient sales. Prerequisites: ECON 201.

**AGEC 292 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**AGEC 320 - Ethics in Agribusiness Credits: 3**
Introduction to ethical theories and frameworks used to discuss general ethical questions such as death, theft, and lying, followed by more specific agribusiness issues. Includes marketing claims, unhealthy foods, the development of genetically-modified organisms, controversy over hiring undocumented workers, and the consolidation of agriculture into industrial production facilities. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**AGEC 352 - Agricultural Law Credits: 3**
Legal rights and duties of parties to agricultural business transactions: sales, secured transactions, real and personal property, business associations, labor relations, bankruptcy, water and drainage, and livestock. Emphasis is on South Dakota law. Cross-Listed: BLAW 352. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**AGEC 354 - Agricultural Marketing and Prices Credits: 3**
Principal factors which affect supply, demand, and price determination within the food system. Evaluation of alternative marketing strategies, including the use of different price discovery mechanisms such as futures and options. Structure and organization of markets and food marketing channels. Prerequisites: ECON 201 or ECON 202.

**AGEC 356 - Equine Law Credits: 3**
Topics include forms of equine business organization, employer requirements, taxes, debt collection, contracts, liability of horsemen, animal abuse and neglect, laws governing horse transport, estate planning, and insurance considerations. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**AGEC 364 - Introduction to Cooperatives Credits: 3**
This course will address the concepts and business principles of the cooperative form of business. Cooperatives differ from other businesses because they are member-owned and operate for the benefit of members, not investors. The course is designed to provide students an understanding of cooperatives that is legally consistent and realistic. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**AGEC 366 - Food Law Credits: 3**
Introduce U.S. statutes, regulations, and court cases relating to food safety concerns so students are prepared to handle real-world situations involving food safety. Students will gain an understanding of where and how to locate laws relating to food safety; the relationship between a statute, a regulation, and a court decision; and who has the authority to interpret them. The course also provides an overview of the interaction among federal and state food safety laws, and the expanding role of international food standards. Cross-Listed: BLAW 366. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**AGEC 371 - Agricultural Business Management Credits: 3**
This course applies core economic and business principles to the management of agribusiness firms. Students will develop a fundamental understanding of the key ideas and concepts needed to successfully manage businesses that specialize in adding value to farm products through services and/or provide inputs to production agriculture. Key concepts include strategic planning, organizational structure, leadership, market analysis, marketing and pricing strategies, and control processes.

**AGEC 372 - Introduction to Resource and Environmental Economics Credits: 3**
Introduction to environmental economics. The course surveys environmental issues such as pollution and carbon emissions. Cost-benefit analysis of the cleanup of environmental problems is introduced as are net present value metrics. Cross-Listed: ECON 372. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**AGEC 430-530 - Agribusiness Marketing and Prices Credits: 3**
Economic theory and quantitative techniques used in analysis of procurement and sales, construction of economic models, statistical estimates of supply and demand, and price forecasting. Prerequisites: AGEC 354 and STAT 281.

**AGEC 440-540 - International Economics Credits: 3**
Explored the economic interaction between sovereign states, including the gains from trade, the pattern of trade, protectionism, the balance of payments, exchange rate determination, international policy coordination, and the international capital market. Prerequisites: ECON 201 and ECON 202. Cross-Listed: ECON 440-540.

**AGEC 454 - Economics of Grain and Livestock Marketing Credits: 3**
Market structure issues related to grain and livestock markets in the US. Fundamental factors affecting agricultural markets. Impacts of national and international economic factors on the performance of US and world grain and livestock markets. Marketing management alternatives for producers, processors, and downstream supply chain participants. Prerequisites: AGEC 354.

**AGEC 457-557 - Business Ethics (COM) Credits: 3**
This course is a study of the ethical implications of managerial decisions. Topics covered include the responsibility of the organization to the individual and society, the role of the individual within the organization, and ethical systems for American business. The course provides an examination and assessment of current American business practices. Cross-Listed: BADM 457-557/BLAW 457-557.

**AGEC 462-562 - Environmental Law Credits: 3**
Introduction to regulatory theory, externalities and market failures, definition of key regulations affecting agribusiness, overview of local government law, and delineation of environmental laws relating to agriculture. Current environmental issues are related to statutory, administrative, and regulatory authorities. Cross-Listed: BLAW 462-562. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**AGEC 471-571 - Advanced Farm & Ranch Management Credits: 3**
Strategic and operational business planning of farms and ranches covering all essential topics from long-term financing, technology adoption, intellectual property rights, marketing, land use changes and climate change, biofuels, and trade. Selected quantitative tools and procedures for analysis and decision making in farm and ranch business management will provide students the right blend of knowledge and tools to become future farm and ranch managers. Prerequisites: AGEC 471: AGEC 271 or ACCT 210.

**AGEC 472-572 - Resource and Environmental Economics (COM) Credits: 3**
Resource and environmental economics surveys the allocation and conservation of natural resources from a perspective of optimal use and sustainability. Emphasis is placed on environmental economics including the problems of pollution, population, and economic growth. Methods for evaluating projects and programs are considered. Prerequisites: ECON 201. Cross-Listed: ECON 472-572.

**AGEC 473-473L - Rural Real Estate Appraisal and Lab Credits: 2, 1**
Practices of rural real estate appraisal. The application of cost, market data, and income approaches to rural land and building appraisal are covered, including tax, loan, and other specialized rural appraisal procedures in developing the appraisal report. Field trips to rural areas are included as part of completing an actual appraisal. Prerequisites: Junior standing. Corequisites: AGEC 473L-473.

**AGEC 478 - Agricultural Finance Credits: 3**
Overview of demand for capital and credit from production agriculture and agribusiness sectors; role of banks, Farm Credit System, agribusiness financing and other financial intermediaries; developing information flows and methods to evaluate financial performance; capital budgeting and financial feasibility techniques; control of farmland and depreciable assets; applications to account for risk. Prerequisites: ECON 201 and ACCT 210.

**AGEC 479-579 - Agricultural Policy Credits: 3**
This course examines the process of developing agricultural and food policy. Topics will include the policy development process; global and domestic implications of both US domestic and international trade policies; environmental and resource issues; food safety, security, and nutrition policies; and the intended and unintended consequences of policy decisions. Prerequisites: ECON 201 and ECON 202. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**AGEC 484-584 - Trading in Agricultural Futures and Options Credits: 3**
This course utilizes fundamental and technical analysis techniques to analyze agricultural futures and options. This is a hands-on commodity trading class. Students will analyze selected agricultural commodity markets, generate trading proposals, and initiate, manage, and close positions in selected agricultural commodity futures and options markets. Prerequisites: AGEC 354.

**AGEC 485-585 - Farming and Food Systems Economics Credits: 3**
Use of economic concepts in analyzing farming and food system alternatives. Using multidisciplinary approach, the course examines the critical linkages in the food system and engages in problem solving at each step of the process. Prerequisites: Senior standing in Economics (B.S.) - Agricultural Economics Specialization or Agricultural Business (B.S.).

**AGEC 490-590 - Seminar (COM) Credits: 1-3**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students.

**AGEC 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**AGEC 492 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**AGEC 494 - Internship (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**AGEC 496 - Field Experience (COM) Credits: 1-3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**AGEC 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**AGEC 592 - Topics (COM) Credits: 1-4**

**AGEC 593 - Workshop (COM) Credits: 1-3**

**AGEC 596 - Field Experience (COM) Credits: 1-3**

**AGEC 672 - Bioenergy and Resource Economics Credits: 3**

**AGEC 691 - Independent Study (COM) Credits: 1-3**

## AGED (Agricultural Education)

**AGED 119 - First Year Seminar Credits: 2**
First-year seminar course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society.

**AGED 295 - Practicum (COM) Credits: 1**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**AGED 401-501 - Parliamentary Procedure Credits: 2**
This course will focus on the function of deliberative assemblies and the orderly conduct of meetings. The course will utilize the current version of Roberts Rules of Order Newly Revised to prepare students to provide parliamentary advice to student organizations, school boards, commodity groups, and other deliberative assemblies.

**AGED 404-404L - Methods in Agricultural Education and Lab Credits: 3, 1**
Developing and maintaining a strong agricultural education program requires knowledge of curriculum design and development, assessment, classroom management and other relevant topics. This course is designed to offer students an opportunity to further develop necessary skills for successfully teaching agricultural subjects in both formal and non-formal educational settings. Additionally, a brief history of the discipline, components of agricultural education, and current trends and issues will be explored. Working with advisory councils, adult education initiatives, and community organizations will also be addressed. Corequisites: AGED 404L-404.

**AGED 405 - Philosophy of Career and Technical Education Credits: 2**
Overview of career and technical education, including history and role and purpose in schools, communities and society; organization and characteristics of instructional programs at secondary, post-secondary and adult levels; career education; funding; and current trends and issues in career and technical education. Prerequisites: Sophomore status in education program. Cross-Listed: FCSE 405. Notes: For prospective teachers in agriculture or family and consumer sciences education.

**AGED 408 - Supervision of Work Experience and Youth Organizations Credits: 2**
This course is designed to enhance students' understanding of experiential learning opportunities in agricultural education. Specifically, content will address strategies, techniques, and practices needed to effectively advise an FFA chapter and/or other student leadership organizations. Promotion, utilization and management of Supervised Agricultural Experience programs and related opportunities will also be explored. Students will develop appropriate philosophies and skills for operation of a comprehensive agricultural education program.

**AGED 412-412L - Preparation for Supervised Teaching Internship in AGED and Lab Credits: 4**
Planning and developing instruction to meet the needs of selected age groups in formal and informal settings. Classroom/laboratory management, integration of core academics into career and technical education, assessment, advisement of student organizations, professional issues, and current topics in education will be addressed in preparation for a career in an educational setting. Prerequisites: Senior Standing, FCSE 295, FCSE 405, EPSY 302, EDFN 475, SEED 314, SEED 450, AGED 404-404L. Cross-Listed: FCSE 412-412L.

**AGED 431-531 - Work Based Learning Credits: 2**
Strategies for developing curriculum and designing methods of instruction for teaching employability skills, career decision making and occupational areas of family and consumer sciences. A field experience will be included. Cross-Listed: FCSE 431-531.

**AGED 488 - 7-12 Student Teaching in AGED Credits: 6**
An experiential application of teaching pedagogy and content in agricultural education under the supervision of a certified teacher in an approved program. Prerequisites: Senior standing and successful completion of all PS I, PSII and all other pedagogy courses. An application for the experience must be completed and approved.

**AGED 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**AGED 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than in the case with field experience courses.

**AGED 592 - Topics (COM) Credits: 1-5**

**AGED 620 - Curriculum for Agricultural Science Education (CASE) Credits: 3-5**

**AGED 625 - Future Directions for Career and Technical Education Credits: 3**

**AGED 650 - Foundations of Agricultural Education Credits: 3**

**AGED 690 - Seminar (COM) Credits: 1-2**

**AGED 788 - Research Problems in Agricultural Education (COM) Credits: 1-7**

**AGED 798 - Thesis (COM) Credits: 1-7**

## AHED (Adult Higher Education)

**AHED 711 - Assessment and Program Design Credits: 3**

**AHED 720 - Principles of Postsecondary Education (COM) Credits: 3**

**AHED 755 - Principles of College Teaching Credits: 3**

**AHED 794 - Internship (COM) Credits: 1-8**

## AHSS (Arts, Humanities & Social Sciences)

**AHSS 110 - Introduction to Museum Studies Credits: 3**
Introduction to provide a broad overview of the museum field, including the historical development of the industry and the philosophy, purpose and structure of the various types of institutions (i.e. art, history, natural history, children's programming, etc.). This course will focus on the functions of the museum in collection management, preservation, exhibits, interpretation, education, and business management. Ethics and legal issues are common threads explored within each section.

**AHSS 111 - Introduction to Global Citizenship and Diversity Credits: 3**
This course enhances students' understanding of diversity by exploring the complexity of difference across multiple contexts to assess how these constructs shape systems of inequity and privilege. Students will consider how an understanding of diversity heightens their sensitivity to social injustice, leads to greater social awareness, and enables students to contribute to a more inclusive environment. Throughout the course, students will reflect on the role of being an engaged and informed citizen.

**AHSS 192 - Topics (COM) Credits: 1-6**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**AHSS 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**AHSS 494 - Internship (COM) Credits: 3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

## AIR (Air Force - ROTC)

**AIR 101-101L - The Foundations of the US Air Force and Lab Credits: 1**
Professional appearance, customs and courtesies, officership/core values, basic communication, officer opportunities/benefits, and Air Force installations. Corequisites: AIR 101L-101.

**AIR 102-102L - The Foundations of the US Air Force and Lab Credits: 1**
Interpersonal communication, macro U.S. military history, Air Force organizations/chain of command, cadet/officer candidate/officer, oral communication, and group leadership problems. Corequisites: AIR 102L-102.

**AIR 201-201L - Team and Leadership Fundamentals I and Lab Credits: 1**
This course will cover topics relevant to leadership and team building such as self-assessment, effective listening, followership, full-range leadership model, problem-solving, motivation, standards, and accountability. Corequisites: AIR 201L-201.

**AIR 202-202L - Team and Leadership Fundamentals II and Lab Credits: 1**
This course will cover topics relevant to leadership and team building such as human relations, conflict management, stress management, resiliency, and ethical decision-making. Corequisites: AIR 202L-202.

**AIR 301-301L - Air Force Leadership Studies and Lab Credits: 3**
Individual motivational and behavioral processes; leadership and group dynamics provide a foundation for development of professional skills as an Air Force officer-includes speaking and writing as they apply to the Air Force. Air Force quality concepts and techniques. Corequisites: AIR 301L-301.

**AIR 302-302L - Air Force Leadership Studies and Lab Credits: 3**
Basic management processes of planning organizing, decision-making, controlling and use of analytical aids. The manager's world of power, politics, strategy, tactics and value conflicts discussed within the context of the military organization. Corequisites: AIR 302L-302.

**AIR 401-401L - National Security Affairs/Preparation for Active Duty and Lab Credits: 3**
The complex interaction between military and civilian society. Theory and workings of National Defense policy. Roles and mission of the Air Force. Commissioned military service as a profession. Corequisites: AIR 401L-401.

**AIR 402-402L - National Security Affairs/Preparation for Active Duty and Lab Credits: 3**
Evolution of defense strategy and the methods of managing conflict. Analysis of the system of Military Justice and current issues affecting military professionalism. Corequisites: AIR 402L-402.

**AIR 491 - Independent Study (COM) Credits: 1-6**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

## AIS (American Indian Studies)

**AIS 100 - Introduction to American Indian and Indigenous Studies Credits: 3**
Introduction to indigenous cultures of North America with emphasis on those inhabiting the United States. Contemporary issues facing Indian people today are covered along with relevant historical, geographical, legal, cultural, and philosophical information.

**AIS 101 - Introductory Lakota I (COM) [SGR #4] Credits: 4**
An introduction to the Lakota language with emphasis on conversation, language structure, and vocabulary. Cross-Listed: LAKL 101. Notes: Course meets SGR #4.

**AIS 102 - Introductory Lakota II (COM) [SGR #4] Credits: 4**
A continued introduction to the Lakota language with emphasis on basic conversation, language structure, and vocabulary. Prerequisites: AIS 101 or LAKL 101. Cross-Listed: LAKL 102. Notes: Course meets SGR #4.

**AIS 103 - American Indian Cultures and the Classroom Credits: 3**
This course will explore the experiences of American Indians in educational settings and the impact of those experiences on their cultural identity. Students will develop their writing and research skills as they learn about various tribes' interactions with American education. In particular, the course will help students understand the similarities and differences between the experiences of Native and non-Native students.

**AIS 201 - Intermediate Lakota I (COM) [SGR #4] Credits: 3**
A continuation of the first-year course, with emphasis on reading, composition, and vocabulary building. Prerequisites: AIS 101 and AIS 102 or LAKL 101 and LAKL 102. Cross-Listed: LAKL 201. Notes: Course meets SGR #4.

**AIS 202 - Intermediate Lakota II (COM) [SGR #4] Credits: 3**
A continuation of intermediate Lakota with emphasis on reading, composition, vocabulary building and the oral tradition. Prerequisites: AIS 101 and AIS 102 or LAKL 101 and LAKL 102. Cross-Listed: LAKL 202. Notes: Course meets SGR #4.

**AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3] Credits: 3**
This course is an education-focused study of the history, culture, values, family structures, traditional religions, legends, and governmental policies of South Dakota American Indian groups. Students are expected to apply the selected concepts and theories to contemporary issues in the state and region. Areas addressed include the educational application of American Indian cultural dynamics, history, teaching, and learning. Notes: Course meets SGR #3.

**AIS 238 - Native American Religions [SGR #4] Credits: 3**
A survey of Native American religious traditions and their relation to both traditional and contemporary cultures. Focus on ritual, myth and practice in traditional settings, as well as forms of religious resurgence in the 20th century. Cross-Listed: REL 238. Notes: Course meets SGR #4.

**AIS 256 - Literature of American West (COM) Credits: 3**
A study of the literature produced in our region, centered on the Great Plains, including that of Native Americans, both oral and written; of pioneers, immigrants; and farmers; Western literature, and current writers. Prerequisites: ENGL 101. Cross-Listed: ENGL 256.

**AIS 291 - Independent Study (COM) Credits: 1-5**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**AIS 349 - Women in American History (COM) Credits: 3**
This course will investigate the role of women in the history of the United States. It will attempt to discover what impact women had on the course of events. Selected women and their careers will be highlighted. Cross-Listed: HIST 349/WMST 349

**AIS 361 - Gender and Sexuality Credits: 3**
This course centers on the perspectives of gay, lesbian, bisexual, transgender, queer, and Two-Spirit Indigenous peoples. Topics will focus on historical and contemporary realities that intersect with Indigenous feminisms, western feminism, and mainstream LGBTQ movements. Cross-Listed: WMST 361.

**AIS 362 - Indigenous Feminisms Credits: 3**
The course will examine feminism in indigenous communities around the world through the study of the personal and communal experiences of indigenous women. Topics will include colonial interactions with indigenous peoples and their impact on cultural concepts of gender roles, personhood, and leadership. Readings will draw from American Indian studies, critical pedagogy, education, gender studies, history, and literature. Cross-Listed: WMST 362.

**AIS 367 - Rise of American Indian Activism Credits: 3**
This course will cover Indigenous methods of building and maintaining relationships, responses to European colonialism, and pan-Indigenous resistance and diplomacy. This will provide the context for examining contemporary American Indian activism in Indigenous homelands. Within an Indigenous framework of understanding relationships to land and life, the course will analyze the tactics and effectiveness of American Indian activism in North America, delving into the use of legal strategies, media messaging, direct action, and coalition building. Cross-Listed: HIST 367.

**AIS 368 - History and Culture of the American Indian (COM) Credits: 3**
Presents history and culture of North American Indians from before white contact to the present, emphasizing regional Dakota cultures. Cross-Listed: HIST 368.

**AIS 373 - Oral History Credits: 3**
This course focuses on how various fields of study approach the methods, theories, and ethics of oral history. Students will learn from oral history practitioners and those they interview. Students will have the opportunity to practice components of oral history by going into the field and participating in interviews. Cross-Listed: HIST 373.

**AIS 392 - Topics (COM) Credits: 3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**AIS 430-530 - Indigenous Relationships to the Environment Credits: 3**
This course provides an overview of Indigenous relationships to the environment which promote the systemic flourishing of life. Students will engage in knowledges that demonstrate the common ground of Indigenous culture and scientific thought. This course will also provide an opportunity to develop professional skills in working with Indigenous peoples, culture, and the environment.

**AIS 445 - American Indian Literature (COM) Credits: 3**
Concentration of myths and legends of major language groups, particularly the Siouan. Cross-Listed: ENGL 445.

**AIS 447 - American Indian Literature of Present Credits: 3**
Twentieth-century autobiography, fiction, and poetry by Native American authors. Cross-Listed: ENGL 447.

**AIS 462 - Formation of Federal Indian Policy Credits: 3**
This course will examine the development of U.S. policies on American Indian/Alaska Native peoples. Topics will include the legal and theological underpinnings of federal Indian policy, constitutional arguments for Congressional control of Indian affairs, treaty-making, allotment, termination, the Reorganization Act, and self-determination. The course will conclude with an examination of current federal policies on such issues as Indian gaming and child welfare. Cross-Listed: HIST 462.

**AIS 471 - American Indians in Film (COM) Credits: 3**
Commercial and educational films address tribal cultures and Indian-White relations in the histories of Latin America and the United States. Cross-Listed: HIST 471.

**AIS 490 - Seminar (COM) Credits: 3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**AIS 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**AIS 492 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**AIS 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

## ANAT (Anatomy)

**ANAT 142 - Anatomy (COM) Credits: 3**
An introductory study of the structure of the human body. This course is designed for students interested in health related careers.

## ANTH (Anthropology)

**ANTH 210 - Cultural Anthropology (COM) [SGR #3] Credits: 3**
Introduces the nature of human culture as an adaptive ecological and evolutionary system, emphasizing basic anthropological concepts, principles and problems. Draws data from both traditional and industrial cultures to cover such concepts as values and beliefs, social organization, economic and political order, science, technology, and aesthetic expression. Notes: Course meets SGR #3.

**ANTH 421-521 - Indians of North America (COM) Credits: 3**
Provides prospective teachers and those interested in Indian people with a basic knowledge of Indian heritage and culture. Emphasis on the Dakota Indians. Prerequisites: Junior, senior, or graduate student status or Instructor's written permission.

**ANTH 491-591 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**ANTH 492 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ANTH 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses. Prerequisites: Written permission.

**ANTH 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course. Prerequisites: Written permission.

## ARAB (Arabic)

**ARAB 101 - Introductory Arabic I (COM) [SGR #4] Credits: 4**
Introduces the fundamental elements of Arabic writing and vocabulary and Muslim culture. Emphasizes sound/symbol relationships. Class work may be supplemented with required aural/oral practice outside of class. Notes: Course meets SGR #4.

**ARAB 102 - Introductory Arabic II (COM) [SGR #4] Credits: 4**
Continues with the introduction of the fundamental elements of Arabic writing and vocabulary and Muslim culture. Emphasizes sound/symbol relationships. Class work may be supplemented with required aural/oral practice outside of class. Prerequisites: ARAB 101. Notes: Course meets SGR #4.

**ARAB 201 - Intermediate Arabic I (COM) Credits: 3**
Continuation course which introduces the fundamental elements of Arabic Sentence Structure and vocabulary. It promotes speaking, listening and writing skills within a cultural context. Prerequisites: ARAB 101, ARAB 102 or prior experience.

**ARAB 202 - Intermediate Arabic II (COM) Credits: 3**
Continuation course which introduces the fundamental elements of Arabic Sentence Structure and vocabulary. It promotes speaking, listening and writing skills within a cultural context. Prerequisites: ARAB 101, ARAB 102 or prior experience.

## ARCH (Architecture)

**ARCH 101 - Drawing Architecture Credits: 3**
An overview of student success strategies for architecture majors and an introduction to the discipline of architecture as an intellectual practice with drawing as its primary tool of inquiry and invention in projection, planimetric, and diagrammatic graphical conventions.

**ARCH 151 - Design Practice I Credits: 2**
Introduces students to design studio and culture. Students learn basic concepts of architectural drawing and model making through studying precedents and surroundings. Students are expected to develop craftsmanship in representation as well as communication skills.

**ARCH 221 - Media Tech I Credits: 1**
Introduction to graphical representation, planimetrics, projection systems, descriptive geometry, and notational systems using both mechanical and electronic tools. Corequisites: ARCH 222.

**ARCH 222 - Media Tech II Credits: 1**
An overview of mediating technologies such as templating, measuring, nesting, joining, and tolerance in fabrication. Students are introduced to CNC digital craft as well as traditional tool working. Corequisites: ARCH 221.

**ARCH 241 - Construction History [SGR #4] Credits: 3**
Studying architecture through the frame of history emphasizing buildings as artifacts of the technological processes of construction. Buildings from across diverse societies and geographies are put into historical context in categories of carving, stacking, framing, skinning, and casting space. Notes: Course meets SGR #4.

**ARCH 242 - Building History II Credits: 2**
Studying architecture through the frame of history emphasizing building as a professional and disciplinary practice. The course focuses on historical study of the genesis of the profession across time and cultures in Renaissance and Baroque Italy (1350-1650).

**ARCH 250 - Design Practice Credits: 5**
This course will introduce a range of design practices establishing a set of skills necessary for addressing complex design challenges in subsequent studios. Project-based exercises will explore methods of analysis, techniques of representation & systems of assembly at a variety of scales.

**ARCH 251 - Building Arts Studio I Credits: 4**
Continuation of first year Design Practice studios. Students continue to learn drawing and modeling techniques and refine craft. Students begin to examine components in building design and construction systems for structures. Prerequisites: DSGN 152.

**ARCH 252 - Building Arts Studio II Credits: 4**
Students look in-depth at building components and assemblies. Work will focus on component design and construction types. Students will begin to analyze building materials and related assemblies. Prerequisites: ARCH 251.

**ARCH 255 - Building Studio Credits: 5**
Building design performed in the integrative digital modeling of function, site, construction, surface, structure, systems, form, and composition. Prerequisites: ARCH 250.

**ARCH 255L - Building Lab Credits: 2**
Building design projected in the graphics of planimetric drawings, diagrams, and animations of function, site, construction, surface, structure, systems, form, and composition. Prerequisites: ARCH 250.

**ARCH 321 - Media Tech III Credits: 2**
Introduction to electronic building information modeling and notational drawing in raster and vector technologies. Prerequisites: ARCH 351.

**ARCH 351 - Building Arts Studio III Credits: 5**
Students design a project problematizing construction and spatial sequence while introducing foundational issues of place-making and city form in architectural production. Prerequisites: ARCH 252.

**ARCH 352 - Architecture Studio I Credits: 5**
Building design studio focusing on institutional program projects in masonry construction situated in a landscape or rural site. Prerequisites: ARCH 351.

**ARCH 354 - Research Studio Credits: 5**
The research studio is the collaborative performance of a systematic inquiry whose goal is communicable knowledge. They are topical investigations either 'into', 'for' or 'through' architecture and guided by polemical questions that come out of contemporary issues in faculty research and creative activity. Prerequisites: ARCH 250.

**ARCH 354L - Research Lab Credits: 2**
The research lab records and reflects the processes and products of the research studio as communicable knowledge. Media utilized will be topical to the workflow of the studio. Prerequisites: ARCH 250.

**ARCH 355 - Building Studio Credits: 5**
Building design performed in the integrative digital modeling of function, site, construction, surface, structure, systems, form, and composition. Prerequisites: ARCH 250.

**ARCH 355L - Building Lab Credits: 2**
Building design projected in the graphics of planimetric drawings, diagrams, and animations of function, site, construction, surface, structure, systems, form, and composition. Prerequisites: ARCH 250.

**ARCH 382 - Travel Studies Credits: 1**
This travel-study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators at other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.

**ARCH 401-501 - Writing Architecture Credits: 3**
This course looks at both the history and the practice of writing about architecture from the end of the nineteenth century to the present with particular attention to the rise of criticism in architectural culture. Prerequisites: ARCH 402-502.

**ARCH 402-502 - Reading Architecture Credits: 3**
Introduces fundamental theoretical texts and their influence on architectural thinking. Students will read explore and discuss historical and contemporary issues through the lens of assigned texts. Prerequisites: ARCH 101.

**ARCH 421 - Media Tech IV Credits: 2**
Lecture and workshop study on the integration of digital building information technologies in the building process from ideation to maintenance. Prerequisites: ARCH 351.

**ARCH 422 - Media Tech V Credits: 2**
Student-driven course in which the instructor guides each student through the compilation, editing, and stylization of a portfolio of her or his design. The subject matter of the portfolio built as a capstone reflection of performance in prior architectural studios, workshops, and media courses. Prerequisites: ARCH 352.

**ARCH 432-532 - Technology of Surroundings Credits: 2**
Lecture and field work in urban design practices, environmental responsibilities, and the implementation of site design technologies.

**ARCH 433-533 - Technology of Structures Credits: 3**
The course builds both an intuitive and empirical understanding of the basic principles of systems thinking in architecture through mechanical study and integrative analysis of building structure performance in space and against gravity. Prerequisites: PHYS 111-111L.

**ARCH 434-534 - Technology of Systems Credits: 3**
The course builds both an intuitive and empirical understanding of the basic principles of systems thinking in architecture through environmental study and integrative analysis of building service system performance. Prerequisites: PHYS 111-111L.

**ARCH 442-542 - History of Ideas Credits: 3**
Studying architecture through the frame of history emphasizing the 20th century development of the modern culture of architecture. Buildings, both local and global, from across diverse societies put into historical context as cultural, socio-political, and corporate artifacts of the profession.

**ARCH 443-543 - Urban History Credits: 3**
Studying architecture in a broad survey of the development of contemporary cities through architectural practices, both local and global and from across diverse societies. Cities are put into historical context as a system of cultural, socio-political, and economic artifacts.

**ARCH 451 - Architecture Studio II Credits: 5**
Building design studio focusing on commercial program projects in steel construction situated in a small town corner site. Prerequisites: ARCH 352.

**ARCH 452 - Architecture Studio III Credits: 5**
Building design studio focusing on housing program projects in concrete construction situated in a big city block infill setting. Prerequisites: ARCH 451.

**ARCH 454-554 - Research Studio Credits: 5**
The research studio is the collaborative performance of a systematic inquiry whose goal is communicable knowledge. They are topical investigations either 'into', 'for' or 'through' architecture and guided by polemical questions that come out of contemporary issues in faculty research and creative activity. Prerequisites: ARCH 250.

**ARCH 454L-554L - Research Lab Credits: 2**
The research lab records and reflects the processes and products of the research studio as communicable knowledge. Media utilized will be topical to the workflow of the studio. Prerequisites: ARCH 250.

**ARCH 455-555 - Building Studio Credits: 5**
Building design performed in the integrative digital modeling of function, site, construction, surface, structure, systems, form, and composition. Prerequisites: ARCH 250.

**ARCH 455L-555L - Building Lab Credits: 2**
Building design projected in the graphics of planimetric drawings, diagrams, and animations of function, site, construction, surface, structure, systems, form, and composition. Prerequisites: ARCH 250.

**ARCH 461-561 - Shop Credits: 2**
Workshop studies in craftsmanship, assembly, and fabrication through hands-on demonstrations and projects. Prerequisites: ARCH 222.

**ARCH 471 - Building Regulation Credits: 2**
Study legal regulation and its history in architectural practice through geographic siting, construction practices, and performance in occupation. Prerequisites: ARCH 351.

**ARCH 491 - Independent Study (COM) Credits: 1-12**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**ARCH 492-592 - Topics (COM) Credits: 3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**ARCH 521 - Media Tech VI Credits: 2**

**ARCH 522 - Media Tech VII Credits: 2**

**ARCH 544 - History of Profession Credits: 3**

**ARCH 551 - Architecture Studio IV Credits: 6**

**ARCH 552 - Comprehensive Building Design Credits: 6**

**ARCH 571 - Architectural Practice I Credits: 2**

**ARCH 572 - Architectural Practice II Credits: 2**

**ARCH 603 - Practicing Architecture Credits: 1**

**ARCH 631 - Technology of Envelopes Credits: 2**

**ARCH 632 - Technology of Interiors Credits: 2**

**ARCH 651 - Professional Design Practice I Credits: 6**

**ARCH 652 - Professional Design Practice II Credits: 6**

**ARCH 653 - Independent Performance Credits: 6**

**ARCH 654 - Research Studio Credits: 5**

**ARCH 654L - Research Lab Credits: 2**

**ARCH 655 - Independent Documentation Credits: 3**

**ARCH 671 - Architectural Practice III Credits: 2**

**ARCH 672 - Architectural Practice IV Credits: 2**

**ARCH 673 - Professional Practice I Credits: 3**

**ARCH 674 - Professional Practice II Credits: 3**

**ARCH 691 - Independent Study (COM) Credits: 1-4**

**ARCH 692 - Topics (COM) Credits: 3**

## ART (Art)

**ART 111 - Drawing I (COM) [SGR #4] Credits: 3**
Introduces various drawing concepts, media, and processes developing perceptual and technical skills related to accurate observing and drawing. Notes: Course meets SGR #4.

**ART 112 - Drawing II (COM) [SGR #4] Credits: 3**
Emphasizes the continuing development of essential drawing skills and perceptual abilities as drawing concepts, compositional complexity, and creativity gain importance. Prerequisites: ART 111. Notes: Course meets SGR #4.

**ART 121 - Design I 2D (COM) [SGR #4] Credits: 3**
Emphasizes the organization of visual elements and principles while exploring creative thought processes through art theory, concepts, material, and techniques. Cross-Listed: DSGN 121. Notes: Course meets SGR #4.

**ART 122 - Design II Color (COM) Credits: 3**
Introduction to color theory as it applies to basic 2D and 3D design principles.

**ART 123 - Three Dimensional Design (COM) [SGR #4] Credits: 3**
3-D visual problems solved through the organization of design elements, utilizing three dimensional design language revealed through its history, theory, aesthetics and materials. Notes: Course meets SGR #4.

**ART 192 - Topics (COM) Credits: 3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**ART 201 - First Review Credits: 1**
Formal review of coursework for students seeking the BFA in Studio Arts after successfully completing prerequisites for ART 201. The student must register in the course after completing foundational studio arts courses (listed below as prerequisites), and while enrolled in or after completing the studio arts core. This course for second year BFA majors must be satisfactory completed before advancing to the Junior level of coursework in the BFA. Students must receive a "C" or higher to pass. Successful completion of ART 201 is required before students can apply to and be accepted into the BFA program. Prerequisites: ART 112, ART 121, ART 122, and ART 123.

**ART 211 - Drawing III-Figurative (COM) Credits: 3**
Figurative drawing studied, emphasizing the development of individual ideas and approaches to various drawing media, including the use of multimedia. Prerequisites: ART 111 or instructor's consent.

**ART 212 - Drawing IV: Mixed Media (COM) Credits: 3**
Involves advanced exploration of drawing through mixed and multi media. Prerequisites: ART 211.

**ART 231 - Painting I (COM) Credits: 3**
Initial approach to painting, employing history, materials, techniques and process in various media as student work with concepts, objects or models Prerequisites: ART 111 or ART 121 or instructor's consent.

**ART 241 - Sculpture I (COM) Credits: 3**
Introduces the development of sculptural concepts and objects through history, techniques and processes using basic three-dimensional materials, including clay, plaster, stone, metals, wood, and synthetic media.

**ART 251 - Ceramics I (COM) Credits: 3**
Introduces ceramic art through its history and basic methods of forming, decorating, glazing, and firing pottery forms, including glaze chemistry and kiln construction.

**ART 281 - Printmaking I (COM) Credits: 3**
Introduces the history and techniques of relief and intaglio processes, lithography (section 1) and screen printing (section 2) as a primary means of expression.

**ART 292 - Topics (COM) Credits: 3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ART 301 - Second Review Credits: 1**
Continuation of formal review of coursework for third year students seeking the BFA in Studio Arts. The student must register in the course while enrolled in or after completing third level courses in their studio specialization. Students must receive a "C" or higher to pass this course which is required to advancing to the senior level of coursework in the BFA. Prerequisites: ART 201 and Junior status.

**ART 311 - Advanced Figurative Drawing (COM) Credits: 3**
The studio course develops and expands live figure drawing practices using traditional methods and mixed media applications, and requires the creation of a portfolio of outside works that complements class-time assignments. Prerequisites: ART 112, ART 122 and ART 211. Notes: Course can be repeated for additional credit.

**ART 331 - Painting II (COM) Credits: 3**
Emphasizes painting based on complex combinations of concepts, materials, techniques and processes using objects, models, and individual creativity. Prerequisites: ART 231.

**ART 341 - Sculpture II (COM) Credits: 3**
Continues Sculpture I as students explore individual concepts through various techniques and materials. Prerequisites: ART 241.

**ART 342 - Sculpture III (COM) Credits: 3**
Continues Sculpture II as students further explore individual concepts through various techniques and materials. Prerequisites: ART 341.

**ART 351 - Ceramics II (COM) Credits: 3**
Continues Ceramics I as students explore clay through individually creative application of concepts, techniques and glazing and firing methods. Prerequisites: ART 251.

**ART 352 - Ceramics III Credits: 3**
Continuation of Ceramics II. Emphasis on individual concepts developed through hand- building and/or throwing techniques. Also more advanced glazing and firing techniques, kiln maintenance, and studio operations. Prerequisites: ART 351 (minimum grade of "C") or instructor consent.

**ART 381 - Printmaking II (COM) Credits: 3**
Continues Printmaking I as students further individualized their application of printing processes and media. Prerequisites: ART 281 or instructor consent.

**ART 382 - Printmaking III Credits: 3**
Continuation of Printmaking II. Creative use of advanced printmaking techniques and processes in relief, intaglio, and serigraphy. Prerequisites: ART 381.

**ART 401 - Thesis Exhibition Credits: 1**
A course for fourth year students seeking the BFA in Studio Arts. Students must present studio specialization coursework in a public exhibition for formal faculty review. Students must receive a "C" or higher to pass. Corequisites: ART 402.

**ART 402 - Thesis Project Credits: 3**
An independent exploration of individual studio artwork in preparation for the senior thesis. Corequisites: ART 401;and ART 433, ART 443, ART 453 or ART 483.

**ART 431 - Painting III (COM) Credits: 3**
Continues Painting II emphasizing concepts in art history, art criticism, and issues in contemporary art as students are encouraged to use self-directed and experimental approaches in developing subject matter and content. Prerequisites: ART 331 or instructor consent.

**ART 432 - Painting IV (COM) Credits: 3**
Continues Painting III through directed study and application of advanced painting concepts, techniques and materials. Prerequisites: ART 431.

**ART 433 - Painting V Credits: 3**
A continuation of Painting IV, emphasis is placed on advanced exploration of techniques and concepts in painting through the development and completion of individual studio artwork. Prerequisites: ART 432.

**ART 441 - Sculpture IV (COM) Credits: 3**
Continuation of Sculpture III. Advanced exploration of sculpture concepts. Prerequisites: ART 342. Notes: Repeatable up to 9 hours.

**ART 443 - Sculpture V Credits: 3**
A continuation of Sculpture IV, emphasis is placed on advanced exploration of techniques and concepts in sculpture through the development and completion of individual studio artwork. Prerequisites: ART 441.

**ART 451 - Ceramics IV (COM) Credits: 3**
A continuation of Ceramics III, an advanced exploration of ceramic materials as directed by personal conceptual needs. Further technical aspects of clay, glaze, and firing processes. Students take a more active role in studio operations. Prerequisites: ART 352 (minimum grade of "C") or instructor consent. Notes: Repeatable up to 9 hours.

**ART 453 - Ceramics V Credits: 3**
A continuation of Ceramics IV, emphasis is placed on advanced exploration of techniques and concepts in ceramics through the development and completion of individual studio artwork. Prerequisites: ART 451.

**ART 481 - Printmaking IV Credits: 3**
A continuation of Printmaking III. Prerequisites: ART 382. Notes: Repeatable up to 9 hours.

**ART 482 - Travel Studies Credits: 1-5**
This travel study course is designed to provide extra-mural educational experiences, as approved by, and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hand-on activities, and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation and a written report and/or exhibition or portfolio of art/design work.

**ART 483 - Printmaking V Credits: 3**
A continuation of Printmaking IV, emphasis is placed on advanced exploration of techniques and concepts in printmaking through the development and completion of individual studio artwork. Prerequisites: ART 481.

**ART 491 - Independent Study (COM) Credits: 1-12**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**ART 492-592 - Topics (COM) Credits: 1-9**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ART 494 - Internship (COM) Credits: 1-16**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**ART 495 - Practicum (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**ART 591 - Independent Study (COM) Credits: 1-12**

## ARTE (Art Education)

**ARTE 414 - K-12 Art Methods (COM) Credits: 2-3**
Students develop an understanding of the tools of inquiry of K-12 art; the ability to design, deliver and evaluate a variety of instructional strategies and processes that incorporate learning resources, materials, technologies, and state and national curriculum standards appropriate to K-12 art; the ability to assess student learning in K-12 art; and to apply this knowledge, skills, and attitudes to real life situations and experiences.

**ARTE 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

## ARTH (Art History)

**ARTH 100 - Art Appreciation (COM) [SGR #4] Credits: 3**
Explores the nature of art in various aesthetic, formal, and psychological dimensions, involving analysis of art objects for understanding, enjoyment, and life enhancement. Notes: Course meets SGR #4.

**ARTH 120 - Film as Art [SGR #4] Credits: 3**
This lecture course introduces and explores concepts of the moving image as an art form. Aspects explored include compositional visual and design elements, film history and narrative elements, and alternatives to mainstream media. Notes: Course meets SGR #4.

**ARTH 211 - History of World Art I (COM) [SGR #4] Credits: 3**
Art and architecture in the historical and contextual development of the role of visual arts including crafts, drawing, painting, sculptures and architecture, in the historical and cultural development of world civilizations from prehistory through the 14th century. Notes: Course meets SGR #4.

**ARTH 212 - History of World Art II (COM) [SGR #4] Credits: 3**
Art and architecture in the historical and contextual development. The role of visual art; including crafts, drawing, painting, sculpture, and architecture; in the historical and cultural development of world civilization from the renaissance through the 20th century. Notes: Course meets SGR #4.

**ARTH 310 - History of United States Art and Architecture Credits: 3**
From colonial times to present. Prerequisites: ARTH 212.

**ARTH 312 - History of Graphic Design (COM) Credits: 3**
Art and design in the historical and contextual development of the role of graphic arts, including typography, advertising design, and multimedia design, in the historical and cultural development of world civilization from prehistory to the present.

**ARTH 320 - Modern Art and Architecture Survey Credits: 3**
Survey of Modern Art and Architecture from its beginnings in the 19th century. Emphasis on international studies and cultural diversity. Prerequisites: ARTH 212.

**ARTH 490 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**ARTH 492 - Topics (COM) Credits: 1-6**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

## AS (Animal Science)

**AS 101-101L - Introduction to Animal Science and Lab Credits: 3, 1**
Course provides an overview of beef, equine, poultry, sheep and swine industries; combined with an introduction to the disciplines of animal science, including breeding and genetics, meat science, nutrition, and reproductive physiology. Topics include the broad scope of the animal industries and their contributions to humankind on a regional, national and international basis; purpose and usage of management techniques and industry practices; animal well-being; and basic principles of animal biology as applied to livestock production. Corequisites: AS 101L-101. Notes: Fall and Spring, Fall restricted to freshman standing.

**AS 102 - Fundamentals of Animal Science Credits: 3**
Course provides an overview of livestock and poultry industry structure and practices, combined with an introduction to disciplines of animal science including breeding and genetics, meat science, nutrition and reproductive physiology. Notes: Summer, online.

**AS 104-104L - Introduction to Horse Management and Lab Credits: 3**
Basic principles in caring for horses, and introduction to the horse industry. Topics include: horse breeds and registry; grooming and safe handling, care and feeding practices; vital signs, body condition scoring, pre-purchase examination, recognition of common lameness and health problems and facilities. Laboratory sessions will include involvement with the SDSU Horse Unit's activities and field trips to nearby facilities. Corequisites: AS 104L-104. Notes: Fall.

**AS 105 - Horsemanship Credits: 1**
Breeds of horses, gaits, grooming, equipment, basic instruction in riding and horsemanship for various disciplines. Notes: Fall.

**AS 110 - Equine Training Credits: 1**
Practicum in techniques and strategies for handling and training young horses. Students will learn the behavior of young horses and the appropriate steps for various training techniques for haltering, grooming, transport, groundwork and saddle-training process. Prerequisites: AS 104. Notes: Spring.

**AS 119 - Opportunities in Animal and Veterinary Science Credits: 1**
First-year seminar course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, time management and goal setting. Students will also investigate the land-grant mission of SDSU. In addition, this course is designed to expose students to the animal and veterinary science based careers and their role in society. Corequisites: AS 120 or VET 120. Notes: Fall.

**AS 120 - Survey of Animal Science Credits: 1**
First-year course designed to assist students in developing a plan of study, activities and work experiences to best prepare them for future careers in animal science and their role in society. Student will also be introduced to diversity concepts, along with contemporary issues impacting animal agriculture. Corequisites: AS 119. Notes: Fall.

**AS 141 - Animal Handling and Husbandry Credits: 1**
Proper techniques in animal handling to reduce stress and potential injury to stockpersons and animals. Basic animal husbandry techniques for domestic animals with a focus on handling and behavior. Prerequisites: AS 101-101L or concurrent. Notes: Spring.

**AS 161 - Companion Animals Credits: 2**
Introduction to the nutrition, health, care and management of companion animals. Feeding and care of dogs and cats will be the primary focus. Notes: Summer, online.

**AS 200 - Introduction to Meat Judging Credits: 1-2**
Identifying, judging and grading of carcasses and wholesale cuts; training in writing reasons. Prerequisites: Must have completed 12 credits; AS 101. Notes: Fall.

**AS 201 - Introduction to Livestock Judging Credits: 1-2**
Livestock selection criteria and terminology for beef, sheep, swine, and horse; performance selection parameters and EPD's will be discussed. Prerequisites: AS 101 and junior standing. Notes: Fall.

**AS 202 - Basic Swine Science Credits: 2**
Basic disciplines and concepts involved in swine production including: industry structure, trends and statistics; production phases and buildings; genetic improvement; reproduction; nutrition; health and biosecurity; nutrient management; marketing and meat quality; and career opportunities in the swine industry. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Fall and Spring.

**AS 213 - Equine Health and Diseases Credits: 3**
Study of equine vital signs, first aid, and wound care, as well as the function of the integument and immune systems. Communicable and common diseases and their prevention will be discussed, with emphasis on colic and laminitis. Notes: Spring.

**AS 215 - Introduction to Integrated Ranch Management Credits: 3**
This course introduces the basic principles of ranching and the food and fiber system. Students will be exposed to the complexities of modern agricultural production systems. Topics include: natural resources as the basis for successful ranching; the family as the major supplier of labor and capital; animal and agronomic production systems; economic and financial forces; risk and opportunity; agricultural policy and law; the decision making process; and stress as the driving force of change. Students will incorporate outside readings into discussions and practice planning exercises held during lab sessions. Cross-Listed: RANG 215. Notes: Spring.

**AS 218 - Survey of Animal Nutrition Credits: 3**
Overview of principles of animal nutrition and feeds suitable for livestock and application of these principles in livestock operations. The course is intended for non-Animal Science majors and students with limited livestock production background. AS 218 can not be used as a substitute for AS 219 as a prerequisite for AS 319. Prerequisites: AS 101 or AS 102 or DS 130 or instructor approval. Notes: Spring.

**AS 219 - Principles of Animal Nutrition Credits: 3**
Functions of various nutrients; digestion and metabolism of nutrients by different animal species. Prerequisites: AS 101 or DS 130. Notes: Fall.

**AS 241-241L - Introduction to Meat Science and Lab Credits: 3**
Survey of meat science and industry. Meat as a food, structure of muscle, conversion of muscle to meat, food safety, meat quality, color, cooking, grading, inspection, curing, and processing. Hands-on carcass fabrication and meat processing. Corequisites: AS 241L-241. Notes: Fall and Spring.

**AS 264 - Ruminant Livestock Production Credits: 3**
Introduction to beef, sheep, and goat production systems, including management, reproduction, genetics, and nutrition. Notes: Fall, Summer.

**AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 3**
Live and carcass evaluation of market animals. Methods of marketing and pricing livestock and carcasses. Prerequisites: AS 101. Corequisites: AS 285L-285. Notes: Fall and Spring.

**AS 301 - Advanced Swine Science Credits: 2**
Application of basic scientific principles to the economical production of pork. Recommendations are made in breeding, reproduction, nutrition, health, housing, marketing, and management of swine production units of varying sizes. Prerequisites: AS 202. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Spring.

**AS 302 - Swine Environment Management Credits: 1**
Response of swine to thermal environment, ventilation system design and analysis, heating and cooling systems and examples of various designs for all phases of production. Troubleshooting ventilation systems and energy analysis of production units. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Fall.

**AS 303 - Swine Feed Mill Management Credits: 1**
Principles of feed manufacturing, equipment operation, feed and ingredient quality assurance and regulatory compliance in a modern feed milling operation. Overview of feed mill regulations and safety. Availability and utilization of various equipment available to the feed milling industry. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Fall.

**AS 304 - Swine Manure and Nutrient Management Credits: 1**
Function, application, and advantages and disadvantages of nutrient management systems. Manure production rates, manure handling systems, storage and manure management planning for land application and odor mitigation strategies. Understanding the connection conscientious manure management provides between livestock and crop production. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Spring.

**AS 305 - Swine Nutrition Credits: 1**
This course is designed to increase the student's understanding of the principles involved with developing and implementing a swine feeding program, and is part of the Swine Science Online (SSO) program. In this 1 credit course (equivalent to 15 contact hours), students will learn the fundamentals of feeding pigs, including understanding nutrients, factors affecting nutrient recommendations, feeding systems and management, feed ingredients, and formulation of swine diets. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Fall.

**AS 306 - Swine Breeding and Gestation Management Credits: 1**
Concepts related to: reproductive physiology and endocrinology of boars and sows; genetic selection programs; development programs for future replacement gilts and boars; semen collection, evaluation, and preparation; detection of estrus and artificial insemination; pregnancy diagnosis; feeding and housing programs for gestating sows; environmental management; records; diseases; and development of quality assurance programs for identifying and solving reproductive problems. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Spring.

**AS 307 - Swine Farrowing Management Credits: 1**
Advanced integration and application of reproductive management concepts during farrowing and lactation. Identification of production trends; formulation of strategies to improve productivity; and parturition and neonatal management. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Spring and Summer.

**AS 308 - Swine Nursery and Finishing Management Credits: 1**
Overview of the critical management, housing, and financial considerations relevant to the successful operation of a swine nursery, grow-finish, and wean to finish enterprise, including: nutrient requirements; building and facility management; and marketing. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Spring and Summer.

**AS 309 - Swine Business and Records Analysis Credits: 1**
Evaluation of swine operations using farm and enterprise records, budgeting, and financial analysis and benchmarks. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Summer.

**AS 310 - Employee Management for the Swine Industry Credits: 1**
Effective employee management in swine production units. Assist students in understanding the principles, policies, and practices related to recruitment, training, retaining, and managing employees. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Fall.

**AS 311 - Marketing and Risk Management in the Swine Industry Credits: 1**
A comprehensive view of industry structure and trends and marketing options available in the swine industry. Management of risk between markets and/or contracts. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Spring.

**AS 312 - Pork Product Quality and Safety Credits: 1**
Pre- and post-harvest factors affecting pork product quality and safety. Overview of the pork harvesting process, and traits and characteristics of quality pork products. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Spring.

**AS 313 - Swine Health and Biosecurity Credits: 1**
Overview of standard biosecurity protocols and identification of behavior and clinical signs of illness in pigs. Treatment administration and prevention methods. Introduction to immune system function and basic swine disease. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Spring.

**AS 314 - Pork Export Markets Credits: 1**
Introduction to global markets; cultural preferences and customs associated with the global swine industry. International trade regulations and potential impact of foreign animal diseases and bioterrorism affecting the U.S. swine industry Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Summer.

**AS 315 - Contemporary Issues in the Swine Industry Credits: 1**
Evaluation of issues facing today's swine industry including: welfare, nutrient management, and food safety and security. Development of skills needed for effective community relations such as media interviews and message points. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Spring.

**AS 319-319L - Livestock Feeds and Feeding and Lab Credits: 3**
Classification and nutritional characteristics of feedstuffs; methods of evaluating feedstuffs; principles of ration formulation and balancing for farm animals; preparation, processing, handling and storage of feedstuffs and feed regulation and control. Prerequisites: AS 219. Corequisites: AS 319L-319. Notes: Fall and Spring.

**AS 322 - Advanced Livestock Evaluation Credits: 1**
Advanced study of live and carcass evaluation of market animals. Type studies and selection for improvement in beef, sheep, and swine. Prerequisites: AS 201 and AS 285. Notes: Spring.

**AS 332 - Livestock Breeding and Genetics Credits: 4**
Application of genetics to improvement of farm animals. Emphasis on occurrence, origin, use and control of variation in economically important traits of farm livestock. Prerequisites: (AS 101 or AS 102 or DS 130) and (BIOL 101-101L or BIOL 151-151L). Notes: Fall and Spring.

**AS 333-333L - Livestock Reproduction and Lab Credits: 3**
Basic physiological processes of reproduction in domestic animals, factors affecting and methods of improving reproductive efficiency. Prerequisites: VET 223. Corequisites: AS 333L-333. Notes: Fall.

**AS 370 - Stable Management Credits: 3**
This course will address skills needed to manage an equine facility for training, boarding, or reproductive purposes. Topics to include basic business concepts, such as advertising, contracts, and liability, facility design and maintenance, and practical equine skills pertaining to this type of enterprise. Prerequisites: AS 104 (or concurrent). Notes: Even Fall.

**AS 376 - Performance Horse Management Credits: 2**
Management of performance horses with emphasis on obtaining optimal short- and long-term goals, achievement and success for the competitive equine athlete, along with lifetime care considerations. Prerequisites: Sophomore standing.

**AS 389 - Current Issues in Animal Science Credits: 3**
Capstone course requiring students to conduct research of the scientific literature on current issues in the animal science, formulate positions based upon the current science, and communicate positions via written and oral presentations. Also includes writing and communicating for employment. Notes: Fall, Spring, and Summer.

**AS 400 - Judging Team Credits: 1-2**
SECTION 1-MEATS Identifying, judging and grading carcasses and cuts; training in writing reasons; participation in intercollegiate meat judging contests. SECTION 2-LIVESTOCK Trips to purebred herds; training in Oral Reasons; participation in American Royal and International Livestock Judging contests. SECTION 3-WOOL Wool judging and grading, training in written reasons, participation in National Western Wool Judging contests. Notes: Section 1 and 2 – Fall, Section 3 –Spring.

**AS 441-541 - Advanced Meat Science Credits: 3**
In-depth study of muscle anatomy and physiology, postmortem metabolism, rigor mortis, meat proteins, meat quality, and meat tenderness. Prerequisites: AS 241. Notes: Even Spring.

**AS 445-445L - Value-Added Meat Products and Lab Credits: 3**
Study the science, art, and economics of processed meats. Investigate methods to add value to meat and meat products, including hands-on processing, new product development, and industry tours. Prerequisites: AS 241. Corequisites: AS 445L-445. Notes: Fall.

**AS 450 - Meat Product Safety and HACCP Credits: 3**
Study of meat-borne pathogens and methods of control. Science and practical aspects of food safety in meat production. Seven principles of HACCP will be investigated and each student will receive HACCP Certification from the International HACCP Alliance. Prerequisites: AS 241 or instructor consent. Notes: Even Fall.

**AS 474-474L - Cow/Calf Management and Lab Credits: 3**
Feeding, breeding and management principles of beef cattle production under farm and ranch conditions. Prerequisites: AS 319, AS 332, and AS 333. Corequisites: AS 474L-474. Notes: Fall and Spring.

**AS 475-475L - Feedlot Operations and Management and Lab Credits: 3**
Management principles of feedlot productions. Student participation in management techniques of feedlot operations. Feeding, health and personnel management issues will be discussed. Prerequisites: AS 319. Notes: Fall.

**AS 476-476L - Horse Production and Lab Credits: 3**
Feeding, breeding and management principles for horses. Prerequisites: AS 319; AS 333 or AS 334-334L; and AS 332. Corequisites: AS 476L-476. Notes: Spring.

**AS 477-477L - Sheep and Wool Production and Lab Credits: 3**
Feeding, breeding and management principles for maximum production of meat and wool in farm and range flocks. Prerequisites: AS 319, AS 332, and AS 333. Corequisites: AS 477L-477. Notes: Fall.

**AS 478-478L - Swine Production and Lab Credits: 3**
Feeding, breeding and management principles for swine production. Breeds, production trends and equipment. Student participation in management techniques. Prerequisites: AS 319, AS 332, and AS 333. Corequisites: AS 478L-478. Notes: Spring.

**AS 491-591 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one . student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic. Notes: Fall, Spring, and Summer.

**AS 492-592 - Topics (COM) Credits: 1-6**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**AS 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than in the case with field experience courses. Prerequisites: AS 101 or AS 104. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance. Fall, Spring, and Summer.

**AS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical. Notes: Fall, Spring, and Summer.

**AS 533 - Applied Mineral Nutrition of Livestock Credits: 1**

**AS 534 - Applied Vitamin Nutrition of Livestock Credits: 1**

**AS 711 - Ruminology Credits: 3**

**AS 712 - Ruminant Nutrition Credits: 3**

**AS 720 - Advanced Selection of Domestic Animals Credits: 3**

**AS 730 - Endocrinology Credits: 3**

**AS 732 - Advanced Physiology of Reproduction Credits: 3**

**AS 734 - Protein and Energy Nutrition Credits: 3**

**AS 736 - Monogastric Nutrition Credits: 3**

**AS 740 - Metabolism Credits: 3**

**AS 750 - Animal Growth and Development Credits: 3**

**AS 753 - Research Topics in Meat Science Credits: 3**

**AS 760 - Advanced Equine Nutrition Credits: 3**

**AS 770 - Advanced Beef Production Credits: 3**

**AS 780 - Evaluation and Use of Breeds in Livestock Credits: 3**

**AS 790 - Seminar (COM) Credits: 1**

**AS 791 - Independent Study (COM) Credits: 1-3**

**AS 798 - Thesis (COM) Credits: 1-7**

**AS 898D - Dissertation-PhD (COM) Credits: 1-12**

## AST (Agricultural Systems Technology)

**AST 119 - First Year Seminar Credits: 1**
First-year seminar course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society.

**AST 202-202L - Construction Technology and Materials and Lab Credits: 2**
Wood and concrete building materials; efficient construction procedures; hand tools, portable and stationary power tools; safe working practices. Corequisites: AST 202L-202.

**AST 211-211L - Ag and Outdoor Power for Teachers and Lab Credits: 1**
This course is designed for students majoring in Agricultural Education, Communication and Leadership. Students will obtain a general working knowledge of spark ignition and compression ignition engines. Laboratory to accompany AST 211. Corequisites: AST 211L-211. Notes: Credit not allowed for both AST 211-211L and AST 213-213L.

**AST 213-213L - Ag, Industrial and Outdoor Power and Lab Credits: 3**
Operation and maintenance of large and small spark ignition engines and diesel engines. Proper selection of tractors with respect to: horsepower, fuel efficiency, safety, cost of operation, traction and power train type will be covered. Corequisites: AST 213L-213.

**AST 273-273L - Agricultural Computer Applications and Lab Credits: 3**
Computer applications for solving production agriculture problems. Development and application of agricultural software and data management for production agriculture applications and processes. Corequisites: AST 273L-273.

**AST 303-303L - Design Management Experience and Lab Credits: 3**
Collaboration on designs with Agricultural and Biosystems Engineering students. Develop design ideas and assist in the evaluation, construction and testing of designs. The students will have responsibility for managing the design projects. Prerequisites: GE 121 and GE 123. Corequisites: AST 303L-303.

**AST 311-311L - Applied Electricity for Teachers and Lab Credits: 1**
Basic wiring and electrical circuits. National Electric Code covering residential and farm applications. Laboratory course to accompany AST 311. Corequisites: AST 311L-311. Notes: Credit not allowed for both AST 311-311L and AST 342-342L.

**AST 313-313L - Farm Machinery Systems Management and Lab Credits: 3**
Farm machine selection and operation (including power requirements) tillage, spraying, planting, harvesting, storage, and ergonomics. Prerequisites: PHYS 101 or PHYS 111. Corequisites: AST 313L-313.

**AST 333-333L - Soil and Water Mechanics and Lab Credits: 3**
Engineering phases of soil and water conservation; elementary measurements and surveying and application to field problems; design and layout of conservation, drainage and irrigation practices. Corequisites: AST 333L-333.

**AST 342-342L - Applied Electricity and Lab Credits: 3**
Basic wiring, electrical circuits, controls, lighting, electric motor selection and operation. National Electric Code covering residential, farm and light industrial applications. Corequisites: AST 342L-342.

**AST 353 - Physical Climatology and Meteorology Credits: 3**
Physical description of daily weather changes and circulation of the atmosphere. Long time means and variation from means of climatological parameters. Application of meteorological and climatological principles to various problem areas.

**AST 390 - Seminar (COM) Credits: 1**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**AST 412-412L - Fluid Power Technology and Lab Credits: 3**
Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits. Corequisites: AST 412L-412.

**AST 423-423L - Rural Structures and Lab Credits: 3**
Stud-frame and post-frame design specifications and techniques. Snow and wind loads, truss and header design, mechanical properties of lumber and composite wood materials, and concrete reinforcement. Insulation, energy use, psychometrics and environmental control systems. Planning beef, dairy and swine livestock systems. Corequisites: AST 423L-423.

**AST 426-426L - Technology Applications for Precision Agriculture and Lab Credits: 3**
In depth study of technologies that enable precision agricultural. Topic may include Global Navigation Satellite Systems, sensors for yield, quality, soil and crop properties as applied to crop production. Controls for variable rate application and automatic control, with communications networks for increasingly connected off-road machines.

**AST 434-434L - Landscape Irrigation and Lab Credits: 3**
Design and management of landscape, turf, and golf irrigation systems. Characteristics of uniform and efficient irrigation systems. Estimating cost of installation and operation. Responsible resource utilization, conservation, and protection. Prerequisites: MATH 114 or MATH 115 or MATH 121 or MATH 123. Corequisites: AST 434L-434.

**AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3**
Mechanics, refrigeration, heat transfer, instrumentation, and equipment operation as applied to materials, handling, storing, preserving, packaging and processing agricultural products. Corequisites: AST 443L-443.

**AST 463-563 - Agricultural Waste Management Credits: 3**
Understand agricultural or biological wastes. Develop an understanding of regulatory requirements and best management practices that advocate responsible environmental stewardship. Topics include production, collection, handling, treating, and reusing agricultural and biological wastes. Course will emphasize written and oral reports. Prerequisites: PS 213 or PS 313.

**AST 490 - Seminar (COM) Credits: 1-3**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students.

**AST 491 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meeting depending upon the requirements of the topic.

**AST 492 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**AST 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than in the case with field experience courses.

**AST 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**AST 497 - Cooperative Education (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**AST 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**AST 791 - Independent Study (COM) Credits: 1-3**

## AT (Athletic Training)

**AT 164 - Introduction to Athletic Training (COM) Credits: 2**
A basic introductory course designed to acquaint students interested in athletic training with all aspects of the profession.

**AT 490 - Seminar (COM) Credits: 2**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**AT 600 - Introduction to Patient Management Credits: 2**

**AT 610 - Interventions I Credits: 3**

**AT 611 - Prophylactic Interventions Credits: 2**

**AT 651 - Clinical Experience I Credits: 1**

**AT 652 - Clinical Experience II Credits: 1**

**AT 722 - Patient Examination and Treatment I Credits: 6**

**AT 725-725L - Principles of Acute Care in Athletic Training and Lab Credits: 3**

**AT 732 - Patient Examination and Treatment II Credits: 6**

**AT 735 - Health Care Administration for Athletic Training Credits: 2**

**AT 740-740L - Functional Movement and Lab Credits: 3**

**AT 742 - General Medical Examination Credits: 3**

**AT 753 - Clinical Experience III Credits: 2**

**AT 754 - Clinical Experience IV Credits: 1**

**AT 755 - Clinical Experience V Credits: 5**

**AT 756 - Clinical Experience VI Credits: 5**

**AT 788 - Master's Research Problems/Projects (COM) Credits: 1**

**AT 790 - Seminar (COM) Credits: 2**

**AT 795 - Practicum (COM) Credits: 1-3**

## AVIA (Aviation)

**AVIA 101 - Introduction to Aviation Credits: 1**
This course will provide an overview of the aviation industry and awareness of the magnitude of aviation activity in the world. The student will discover a multitude of career opportunities and recognize the role aviation education holds in support of the nation's commerce and air transportation. The student will study the evolution of the industry and recognize general economic, social, and political factors affecting the future of aviation industry.

**AVIA 120 - Exploring Aviation Credits: 1**
This exploratory course is open to all students to learn about and experience aviation. Students will be exposed to different sectors of aviation and will learn how the field of aviation contributes to society. All students will have the opportunity to fly in a training airplane at least twice during the semester. Students will also gain experience through hands-on flight simulation using advanced aircraft simulation. Aviation career options will also be explored. Charge for flights will be assessed. Contact instructor for more information. Notes: Additional fees apply for aircraft rental and instruction. Any flight, simulation, or instruction time above the required hours posted will be charged at an hourly rate. Flight training materials and test expenses are not included in minimum charges billed to the student at registration. For VA minimum charges and average cost of flight course please see www.sdstate.edu/aviation.

**AVIA 150-150L - Introduction to Aviation Meteorology and Lab Credits: 2**
This course is an introduction to Meteorology and forecasting. The major focus of this course is to understand public and aviation weather observations and forecasts. Topics covered include understanding the global energy balance and structure of the atmosphere as a background to explain seasons and weather. Air masses and frontal systems, and weather phenomena such as thunderstorms, icing, tornadoes, and tropical systems are related to forecasting. Corequisites: AVIA 150L-150.

**AVIA 170 - Fundamentals of Flight Theory Credits: 3**
Basic aviation principles for the beginning aviator are presented in this course. Topics include aerodynamics, basic aircraft systems, aircraft performance computations, weight and balance computations, meteorology, radio navigation and communication techniques, cross-country preparation, pilot physiology, and emergency operations. Students completing this course will be ready to challenge the Federal Aviation Administration Private Pilot written and oral exams. Notes: For students wishing to fly, this course should be taken with AVIA 171 but it is not required. 35 hours of ground instruction required per 14 CFR 141.57.

**AVIA 171 - Introductory Flight I Credits: 2**
This flight course involves individual flight instruction for the FAA Private Pilot Certificate. Topics include aircraft preflight, weather briefings, basic flight maneuvers, and basic flight regulations. Students will complete, under the supervision of SDSU flight instructors, at least the first progress check of the private pilot certificate. Prerequisites: Instructor consent and AVIA 170 (completed or concurrent). Notes: Additional fees apply for aircraft rental and instruction. Any flight, simulation, or instruction time above the required hours posted will be charged at an hourly rate. Flight training materials and test expenses are not included in minimum charges billed to the student at registration. For VA minimum charges and average cost of flight course please see www.sdstate.edu/aviation.

**AVIA 180 - Attitude Instrument Theory Credits: 2**
This course begins with a discussion of Aeronautical Decision Making (ADM), airworthiness requirements for flight, and professionalism in aviation. The course proceeds to an in-depth study of instrumentation and glass technologies. Basic attitude flight principles will be enhanced through this course. In addition, students will have a fundamental knowledge of the air navigation systems used to conduct IFR flight. Corequisites: AVIA 181. Notes: 25 hours of ground instruction required per 14 CFR 141.57.

**AVIA 181 - Introductory Flight II Credits: 2**
In this flight course, students will continue learning how to fly aircraft in the VFR and IFR environments. Topics include cross-country flight and flight planning, night operations, lost and emergency procedures, basic instrument flight control, and National Airspace services. Student will obtain, under the supervision of SDSU flight instructors, the FAA Private Pilot Airplane Single Engine Land Certificate, as a requirement of course completion and continue on to at least stage I of the instrument commercial 14 CFR 141 requirements. Prerequisites: AVIA 171 and AVIA 180 (completed or concurrent). Notes: Additional charges apply for aircraft rental and instruction. Any flight, simulation, or instruction time above the required hours posted will be charged at an hourly rate. Flight training materials and test expenses are not included in minimum charges billed to the student at registration. For VA minimum charges and average cost of flight course please see www.sdstate.edu/aviation.

**AVIA 189 - Airframe and Powerplant Course Credits: 1-40**
The Airframe & Powerplant Course is a block of up to 40 credits awarded to students enrolling in the Aviation Maintenance Management specialization who have completed a Federal Aviation Administration (FAA) approved airframe & powerplant program. Students will be required to produce a FAA airframe & powerplant certificate as proof of successful completion. Notes: These credits will only apply to the aviation maintenance management specialization.

**AVIA 200 - Aviation Safety Credits: 3**
This course will introduce aviation safety principles as important aspects of air transportation. Topics will include regulatory issues, means of measuring air transportation safety, risk assessment, safety data analysis, use of technology in aviation safety, accident investigation, National Transportation Safety Board oversight of aviation safety, and other appropriate issues as arise.

**AVIA 201 - Aviation Weather Credits: 2**
This course is a study of the basic components of the earth's atmosphere and provides a basic foundation in the meteorological and environmental factors that influence the formation of the various weather patterns found in near and upper atmospheric levels over the continental United States and the Northern Hemisphere. Included in the course will be discussion on how weather influences the basic aerodynamics of an aircraft in-flight and the basic pilot-static instrument system. This course is intended for students who plan a career as professional pilots or a career in aviation operations or for an elective. Prerequisites: AVIA 150.

**AVIA 225 - Crew Resource Management in Aviation Credits: 3**
The focus of this course is key elements required for cognitive, social, and interpersonal skills that support safe and efficient flight operations. Theoretical background subjects include team competencies, leadership, workload management, professionalism, decision making, human error mitigation and stress/fatigue management. This course emphasizes the importance of monitoring both automation and the other crewmembers, plus the use of communication skills and processes necessary for safe flight operations. Prerequisites: AVIA 171.

**AVIA 300 - Human Factors in Aviation Credits: 3**
This course will cover a basic, broad overview of human factors as they affect pilot and passenger safety. Topics will include pilot physiological and psychological issues as they relate to aviation safety, and the impact of the external environment upon these issues. The course will introduce the topic of crew resource management (CRM) and the importance of CRM to aviation safety, as well as specific physiological training.

**AVIA 302 - Aviation Law Credits: 2**
This course will cover a basic overview of the aviation legal system. Many policies, procedures, laws and past and current cases that establish legal precedent in landmark court cases will be studied.

**AVIA 305 - Introduction to Aviation Administration Credits: 3**
This course is designed to familiarize the student with the organization and conduct of aviation operations involving the use of general, corporate, and transport aviation aircraft and services. The course will cover aspects of management involved in aviation operations. Topics include security, accounting, regulations, national and global economics, flight line operations, administrative considerations, aircraft maintenance operations, and decision-making. Technological advances pertaining to management operations will be discussed throughout the course.

**AVIA 310 - Individual Flight Training Credits: 1-3**
This course is designed to provide additional flight training experience using a variety of aircraft and simulation sessions. Single-engine aircraft and flight training devices as well as complex/multi-engine may be used for this course to help students develop skills in crew resource management, aviation human factors, aerodynamics, performance, and aviation safety. All students wishing to participate in this course must first meet with a representative from the Aviation Program to develop specific outcomes for the course and then register. The course can be repeated for additional credit. Additional financial aid is awarded for this course for eligible students. Prerequisites: Instructor Consent.

**AVIA 340 - Advanced Flight Principles Credits: 3**
This course will provide students with a background in the technical aspects of flying large complex aircraft. Topics will include advanced aerodynamics, advanced weight and balance, and advanced aircraft system operation.

**AVIA 350 - Tail-wheel Transition Credits: 1**
This course teaches the fundamental and advanced techniques of airmanship utilizing a conventional gear aircraft. The aircraft used for this course will help students to manipulate and master airmanship while building on advanced flight principles. In this course, students will learn how to safely and effectively operate a conventional aircraft. Prerequisites: Departmental authorization.

**AVIA 370 - Professional Pilot Theory I Credits: 3**
This theory course prepares students for FAA instrument and commercial rating. Topics include navigation principles and procedures, air traffic control procedures, applicable FAA regulations, and meteorological considerations for flight in the airspace system. It also covers departure, arrival and en route considerations as well as terminal operating procedures. Students completing this course will successfully complete the FAA Instrument Pilot written examination as a requirement for course completion. Prerequisites: Instructor consent. Notes: 20 hours of ground instruction required per 14 CFR 141.57.

**AVIA 372 - Professional Flight I Credits: 2**
This flight course covers individual flight instruction for FAA instrument and commercial flight ratings. Students will obtain, under the supervision of SDSU flight instructors, the FAA Airplane Single Engine Land instrument rating as a requirement for course completion as well as continue building hours towards the commercial certificate. Prerequisites: Instructor consent and AVIA 370 (completed or concurrent). Notes: Additional fees apply for aircraft rental and flight instruction. Students must have their private pilot certificate before enrolling in course. Any flight, simulation, or instruction time above the required hours posted will be charged at an hourly rate. Flight training materials and test expenses are not included in minimum charges billed to the student at registration. For VA minimum charges and average cost of flight course, please see www.sdstate.edu/aviation.

**AVIA 375 - Professional Pilot Theory II Credits: 3**
This theory course prepares students to operate multiengine and single engine aircraft professionally through the National Airspace System as a commercial pilot. Federal regulations, complex aircraft performance and operation, high performance aircraft characteristics, and safe operation of commercial aircraft in the US air transportation system will be covered in this course. Student will successfully complete the FAA Commercial Pilot Certificate written examination as a requirement of course completion. Prerequisites: Instructor consent. Corequisites: AVIA 377. Notes: 35 hours of ground instruction required per 14 CFR 141.57.

**AVIA 377 - Professional Flight II Credits: 2**
This flight course provides individualized flight instruction in preparation for the FAA Commercial Pilot Certificate. Students will complete, under the supervision of SDSU flight instructors, the FAA commercial practical exams. Prerequisites: Instructor consent and AVIA 375 (completed or concurrent). Notes: Additional charges apply for aircraft rental and instruction. Any flight, simulation, or instruction time above the required hours posted will be charged at an hourly rate. Flight training materials and test expenses are not included in minimum charges billed to the student at registration. For VA minimum charges and average cost of flight course please see www.sdstate.edu/aviation.

**AVIA 392 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually 10 or fewer students with significant one-on-one student-teacher involvement.

**AVIA 400 - Air Transportation System Credits: 3**
Advanced study of U.S. aviation issues to include: a historical perspective of the industry, regulatory aspects of the industry, general aviation, military aviation, commercial aviation, manufacturing, and other issues of interest to the air transportation industry. This will include local, state, national, and international aspects of the industry. Discussion of the services and challenges faced by the air transportation system will also be covered in this course.

**AVIA 440 - Curriculum Design in Aviation Credits: 3**
This course will cover the development process of selection, organization and management of instructional content and supplemental materials related to aviation education. Special emphasis will be placed on development of objectives, integration of teaching/learning strategies, and scenario-based training.

**AVIA 450 - Methods of Teaching in Aviation Credits: 3**
This course will feature lesson presentation and methods of delivering instruction in aviation education. This course will equip the student with resources and technology used in the classroom and aircraft to specifically teach content related to aviation. Topics covered include teaching with technology, utilizing instructional aides, motivating students, and marketing a program. Instructional techniques appropriate for aviation education are developed based on models identified in competency-based or performance-based education. Additional support will be provided to help student deliver classroom and aircraft content, assess the content, and provide feedback on the assessment. Students will gain practical experience by utilizing skills learned in class to actively engage the aviation community.

**AVIA 470 - Professional Flight Instructor Theory I Credits: 2**
Defines the responsibilities and role of the professional flight instructor in the process of flight training and general aviation development. The student will study the market of new aspiring pilots and learn how to attract and retain flight students as permanent general aviation customers. This course focuses on the practical aspects of teaching adults to fly. Students completing this course are prepared to challenge the FAA Fundamentals of Instruction knowledge exam and the FAA Flight Instructor knowledge exam. Prerequisites: Instructor consent. Corequisites: AVIA 474.

**AVIA 471 - Professional Flight Instructor Theory II Credits: 2**
This ground course prepares the flight instructor to teach students in an instrument flight environment in both single engine and multiengine aircraft. Learning objectives include an in-depth study of the responsibilities and techniques to be used as an Instrument Flight Instructor in the multi and single engine-training environment. This course will also include additional study of instrument flight, multi-engine operations, aerodynamics, single-engine operations, and regulations pertaining to the IFR environment. Prerequisites: Instructor consent.

**AVIA 472 - Certified Flight Instructor Instrument Credits: 1**
This course prepares the flight instructor to teach students in an instrument flight environment Prerequisites: Instructor consent.

**AVIA 473 - Certified Flight Instructor Multi-Engine Credits: 1**
This course prepares the flight instructor to teach students in an aircraft with two or more engines. Prerequisites: Instructor consent.

**AVIA 474 - Certified Flight Instructor I Credits: 2**
This flight course provides the student with a detailed study of the responsibilities and teaching concerns of a flight instructor in a single engine aircraft environment. The course is concerned with the analysis of the flight maneuvers involved with Sport Pilot, Recreational Pilot, Private Pilot, Commercial Pilot and Flight Instructor Certificates. During this course the student is expected to complete the FAA Certified Flight Instructor practical checkride. Prerequisites: AVIA 470 (completed or concurrent) and instructor consent. Notes: Additional charges apply for aircraft rental and instruction. Any flight, simulation, or instruction time above the required hours posted will be charged at an hourly rate. Flight training materials and test expenses are not included in minimum charges billed to the student at registration. For VA minimum charges and average cost of flight course please see www.sdstate.edu/aviation.

**AVIA 475 - Certified Flight Instructor II Credits: 2**
This flight course prepares the flight instructor to instruct in an instrument flight environment in both single engine and multiengine aircraft. The course will place special emphasis on multi-engine aerodynamics and performance, one engine inoperative operations and procedures, flight safety concerns and instrument flight maneuvers in single and multi-engine airplanes. Students will complete the FAA CFII and MEI practical examinations as part of this course. Prerequisites: AVIA 471 (completed or concurrent), AVIA 474, and instructor consent. Notes: Additional charges apply for aircraft rental and instruction. Any flight, simulation, or instruction time above the required hours posted will be charged at an hourly rate. Flight training materials and test expenses are not included in minimum charges billed to the student at registration. For VA minimum charges and average cost of flight course please see www.sdstate.edu/aviation.

**AVIA 488 - Student Flight Instruction Credits: 3**
Supervised flight instruction in a post-secondary setting. Prerequisites: AVIA 470 and consent.

**AVIA 489 - Aviation Senior Seminar Credits: 3**
This course will explore contemporary and ethical issues in the aviation industry. Students will examine and solve issues related to global aviation, environmental concerns, technology advances, aviation safety and security practices, labor issues, aviation education, and aviation economics. Students will be required to demonstrate an understanding of information literacy and advanced communications through course work.

**AVIA 491 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**AVIA 494 - Internship (COM) Credits: 3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than in the case with field experience courses. Prerequisites: Department approval required.

## BADM (Business Administration)

**BADM 101 - Survey of Business (COM) Credits: 3**
This course is an introduction to the basic business disciplines and the organization and management of the American enterprise system. It also introduces students to the necessary college level skills of critical thinking, effective communication and cooperative and effective learning.

**BADM 280 - Personal Finance (COM) Credits: 3**
This course is a survey of individual investment opportunities. Topics include common and preferred stocks and corporate bonds, auto, life, and health insurance, home ownership, and will and estate planning. Cross-Listed: FIN 280.

**BADM 292 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**BADM 310 - Business Finance (COM) Credits: 3**
Business finance is an overview of financial theory including the time value of money, capital budgeting, capital structure theory, dividend policies, asset pricing, risk and return, the efficient markets hypothesis, bond and stock valuation, business performance evaluation and other financial topics. Prerequisites: ACCT 211. Cross-Listed: FIN 310.

**BADM 321 - Business Statistics II (COM) Credits: 3**
This course focuses on statistical inference and forecasting. Topics, with business applications, include hypothesis testing, analysis of variance, correlation, simple linear and multiple regression and time series analysis. Utilization of statistical software is emphasized. Prerequisites: BADM 220 or MATH 281 or STAT 281.

**BADM 334 - Small Business Management (COM) Credits: 3**
This course applies business policies and procedures to the small business environment. As such, it is designed for students contemplating management or ownership of a small business. Topics include the nature of the entrepreneur, financing and ownership options, marketing, government regulations, taxation, inventory control and other relevant business functions. Cross-Listed: MGMT 334.

**BADM 350 - Legal Environment of Business (COM) Credits: 3**
This is a study of legal topics as they apply to the business environment. Topics include an introduction to the law, the U.S. Court system, legal process, government regulation, and criminal, tort, and contract issues. Cross-Listed: BLAW 350.

**BADM 351 - Business Law (COM) Credits: 3**
This course involves a thorough study of the law of contracts, sales, product liability, agency, corporations and other selected topics. Prerequisites: BADM/BLAW 350. Cross-Listed: BLAW 351.

**BADM 360 - Organization and Management (COM) Credits: 3**
This course is a study of management, including the planning, direction, controlling and coordinating of the various activities involved in operating a business enterprise. Cross-Listed: MGMT 360.

**BADM 370 - Marketing (COM) Credits: 3**
This course introduces the student to the basic concepts and practices of modern marketing. Topics include marketing and its linkages to business, consumer behavior, marketing research, strategy and planning, product and pricing decisions, distributions and promotion decisions, marketing management, and evaluation and control aspects for both consumer and industrial goods. Prerequisites: ECON 201. Cross-Listed: MKTG 370.

**BADM 411-511 - Investments (COM) Credits: 3**
This course is a thorough study of the equity market including fundamental valuation techniques, asset allocation, the efficient markets hypothesis and its implications, portfolio theory, risk and return, the primary and secondary market mechanisms, security market indicators, and international investing. An overview of the bond market including bond valuation, duration, and bond portfolio management, and an introduction to options, futures, and forward contracts are provided. The vital roles of computer technology and electronic trading are also explored. Prerequisites: BADM/FIN 310. Cross-Listed: FIN 411-511.

**BADM 412 - Security Analysis (COM) Credits: 2-3**
Security Analysis is a thorough study of portfolio management for individual as well as institutional investors and includes both equity and fixed income analysis. Security valuation and analysis are discussed as well as the topics of asset allocation, efficient diversification, portfolio theory and construction, investment policy, and performance evaluation. The vital roles of computer technology and electronic trading are also explored. Prerequisites: BADM/FIN 411. Cross-Listed: FIN 412.

**BADM 413 - Advanced Corporate Finance (COM) Credits: 3**
This course utilizes a combination of cases and theory in studying the investment, financing and dividend decisions of the firm. The emphasis is on long-term debt and equity financing as well as managing financial risk. Prerequisites: BADM/FIN 310. Cross-Listed: FIN 413-513.

**BADM 424 - Operations Research (COM) Credits: 3**
This course looks at quantitative tools and methods used in the decision making process of business organizations. Linear programming, decision making under uncertainty, simulation, inventory models, and queuing models will be studied. Prerequisites: BADM 220 or STAT 281.

**BADM 457-557 - Business Ethics (COM) Credits: 3**
This course is a study of the ethical implications of managerial decisions. Topics covered include the responsibility of the organization to the individual and society, the role of the individual within the organization, and ethical systems for American business. The course provides an examination and assessment of current American business practices. Cross-Listed: AGEC 457-557/BLAW 457-557.

**BADM 460 - Human Resource Management (COM) Credits: 3**
This course provides a survey of managerial practices with respect to the management of the human resource function and an introduction to the topic of human resource management as an occupational choice. Major areas of inquiry include recruitment and selection, training and development, compensation and benefits administration and work force integration and maintenance. Prerequisites: BADM/MGMT 360 or (BADM 369 completed or concurrent) or AGEC 371. Cross-Listed: HRM 460.

**BADM 464 - Organizational Behavior (COM) Credits: 3**
This course is a study of individuals and groups. Traditional organization theory and concepts are presented and study is given to motivation, group dynamics, and methods of coordination, change and adaptation within an organization Prerequisites: BADM/MGMT 360. Cross-Listed: MGMT 464.

**BADM 474 - Personal Selling (COM) Credits: 3**
This course is a study of the skills needed to develop and manage long-term relationships with customers and suppliers. Emphasis is placed on relationship selling, presentation, prospecting, handling objectives and closing techniques with consideration given to differences in the global marketplace Prerequisites: BADM/MKTG 370.

**BADM 482 - Business Policy and Strategy (COM) Credits: 3**
This course is designed to develop an understanding of strategy formulation, implementation, and evaluation. It involves integrating all functional areas of business, analyzing the environment in which the firm operates, and choosing strategies that enable the firm to meet its objectives. Prerequisites: BADM/FIN 310, BADM/BLAW 350, BADM/ECON/MKTG 370, and (BADM/MGMT 360 or BADM 369). Senior standing. Cross-Listed: MGMT 482.

**BADM 483 - Small Business Consulting Credits: 1-3**
This course is a consulting program whereby students, working under faculty guidance, assist businesses by researching and developing possible solutions to specific problems involved in business start-up and expansion. Prerequisites: Senior standing. Cross-Listed: ENTR 483.

**BADM 485 - Business and Financial Decisions in a Global Economy Credits: 3**
Applied qualitative and quantitative skills in management, marketing, financial and economic analysis. Acceleration of the forces of innovation and technology, globalization, changing business models and sustainability require the ability to recognize change, and to be able to adapt to diverse situations and environments. Prerequisites: BADM/MGMT 360, BADM/BLAW 350, BADM/FIN 310, and BADM/ECON/MKTG 370. Business Economics majors only; senior class standing.

**BADM 489 - Business Plan Writing and Competition (COM) Credits: 1**
Students will write a business plan and present it to a panel of faculty and business community members. The top three business plan presenters will move on to a statewide competition. Cross-Listed: ENTR 489.

**BADM 491 - Independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**BADM 492 - Topics (COM) Credits: 1-4**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**BADM 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**BADM 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**BADM 592 - Topics (COM) Credits: 1-3**

**BADM 593 - Workshop (COM) Credits: 1-3**

## BIOL (Biology)

**BIOL 101-101L - Biology Survey I and Lab (COM) [SGR #6] Credits: 3**
Study of the nature, diversity, and classification of life, ecology, cells and cell cycles, Mendelian and modern genetics evolution and evolution theory. Intended for those not majoring in biology. Laboratory experience that accompanies BIOL 101. Corequisites: BIOL 101L-101. Notes: Course meets SGR #6.

**BIOL 103-103L - Biology Survey II and Lab (COM) [SGR #6] Credits: 3**
Study of energetics; plant growth; development and reproduction; animal structure and function. Intended for those not majoring in biology. Laboratory experience that accompanies BIOL 103. Corequisites: BIOL 103L-103. Notes: Course meets SGR #6.

**BIOL 105 - Human Biology (COM) Credits: 3**
Presents key biological principles that are characteristic of living things in general and human beings in particular, focusing on the application of these principles to the concerns of contemporary life. Not intended for life science majors.

**BIOL 119 - First Year Seminar Credits: 2**
First-year seminar course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society. Prerequisites: Biology, Human Biology, Microbiology, Biotechnology or Pre-Professional program required.

**BIOL 142 - Anatomy (COM) Credits: 3**
An elementary study of the gross structure of the human body.

**BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] Credits: 4**
The introductory course for those majoring in biology and microbiology. Presents the concepts or cell biology, evolution, heredity, molecular genetics and ecology. Laboratory experience that accompanies Corequisites: BIOL 151L-151. Notes: Course meets SGR #6.

**BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] Credits: 4**
A continuation of BIOL 151, the introductory course for those majoring in biology and microbiology. Presents the concepts of animal and plant structure and function, energetics, and reproduction. Laboratory experience that accompanies BIOL 153. Corequisites: BIOL 153L-153. Notes: Course meets SGR #6.

**BIOL 198L - First Year Mentored Research Lab Credits: 2**
Guided and mentored independent research project.

**BIOL 202-202L - Genetics and Molecular Biology and Lab Credits: 3, 1**
First course in a 2-semester sequence designed to teach students current concepts in genetics and molecular biology. This course prepares students in the biological sciences for advanced courses in their emphasis areas. Topics covered in this course include: Mendelian inheritance; mitosis and meiosis; chromosomal basis of inheritance and linkage; regulation of gene expression; mutations; gene mapping; DNA structure and replication; gene function; DNA repair; population genetics; evolution and natural selection; genetic engineering and biotechnology. Laboratory experience that accompanies BIOL 202. Prerequisites: (BIOL 103 or BIOL 153) and CHEM 114-114L. Corequisites: BIOL 202L-202.

**BIOL 204-204L - Introduction to Cell Biology and Lab (COM) Credits: 3, 1**
Second course in a 2-semester sequence designed to teach students current concepts in cellular biology. This course will prepare students in the biological sciences for advanced courses in their emphasis areas. Topics covered in this course include: protein structure and function; membrane structure and function; energy generation in mitochondria and chloroplasts; the endomembrane system and trafficking; cytoskeleton; cell signaling. This course is designed to be taken in conjunction with BIOL 204L, Introduction to Cell Biology Lab. BIOL 204L: This is the second course in a 2-semester sequence designed to teach students current laboratory techniques in cellular biology. This course will introduce students to basic techniques fundamental to advanced courses in their emphasis areas. This course must be taken in conjunction with BIOL 204, Introduction to Cell Biology. Prerequisites: BIOL 101-101L or BIOL 151-151L or BIOL 202. Corequisites: BIOL 204L-204. Notes: One semester of Organic Chemistry is highly recommended.

**BIOL 210 - Human Physiology for Allied Health Professionals (COM) Credits: 4**
Lectures, laboratory work and demonstrations of human physiological processes both normal and abnormal.

**BIOL 210L - Human Physiology for Allied Health Professionals Lab (COM) Credits: 0**
Laboratory experience that accompanies BIOL 210.

**BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4**
Structures of various systems in the human body are presented as a structural basis for physiology. Laboratory experience that accompanies BIOL 221. Corequisites: BIOL 221L-221.

**BIOL 235-235L - Introduction to Biotechnology and Lab (COM) Credits: 3**
Presents a basic overview of biotechnology emphasizing current DNA and RNA technologies and structure and function of biomolecules. The application of these techniques in the fields of medicine, agriculture, forensics and the environment is emphasized. Scientific methods, current good laboratory practices (cGLP), standard operating procedures (SOP), environmental regulations and ethics of the biotechnology industry will also be covered. Corequisites: BIOL 235L-235.

**BIOL 239 - The Biology of Dinosaurs Credits: 3**
The Biology of Dinosaurs is an interdisciplinary organismal course designed to examine the biology of the extant group Dinosauria. Through the study of dinosaurs, the students will gain a more complete understanding of theories and methodology common to biologists. Dinosaurs provide a unique and compelling context in which to present and reinforce various concepts (e.g., evolution, ecology, systematics, anatomy/physiology, behavior, biomechanics, natural history, extinction) in organismal biology. In addition, principles from mechanical engineering, geology, history, and archeology will be woven into the study of dinosaurs. Prerequisites: BIOL 101 or BIOL 151.

**BIOL 290 - Seminar (COM) Credits: 1**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**BIOL 311 - Principles of Ecology (COM) Credits: 3**
Basic principles of ecology including the sub disciplines of physiological ecology, population ecology, community ecology, evolutionary ecology, and ecosystems ecology from both a theoretical and applied aspect. Prerequisites: BIOL 151-151L or BIOL 153-153L. Cross-Listed: NRM 311.

**BIOL 325-325L - Physiology and Lab (COM) Credits: 4**
Basic cell physiology, neural, hormonal and neuroendocrine control systems. Coordinated body functions. Laboratory experience that accompanies BIOL 325. Prerequisites: (BIOL 151-151L or BIOL 153-153L or BIOL 221-221L) and (CHEM 106-106L or CHEM 112-112L). Corequisites: BIOL 325L-325.

**BIOL 326-326L - Biomedical Physiology and Lab (COM) Credits: 3, 1**
Human physiology integral to the fields of biomedical sciences, bioengineering, and health professions. Topics include the scientific principles of cell transport; cell signaling; and major organ systems including nerve, muscle, cardiovascular, respiratory, renal, digestive endocrine, metabolic, and reproductive systems. An emphasis is placed on the integrative nature of physiology and the ability to think critically as students apply physiology to real-world situations and processes. Lab to accompany BIOL 326 Biomedical Physiology. Lab designed to provide students with hands-on experience that reinforces information presented in lecture. Lab will familiarize students with various lab techniques and equipment used in physiological experimentation and clinical settings. Prerequisites: (BIOL 153-153L or BIOL 221-221L) and CHEM 114-114L. Corequisites: BIOL 326L-326.

**BIOL 371 - Genetics (COM) Credits: 3**
Principles governing the nature, transmission and function of hereditary material with application to plants, animals, humans, and microorganisms. Prerequisites: BIOL 101-101L or BIOL 151-151L.

**BIOL 373 - Evolution (COM) Credits: 3**
This course provides an overview of biological evolution and its evidence, examines micro- and macro-evolutionary forces that drive biological diversity, and helps students understand the relevance of evolutionary theory in contemporary issues. Prerequisites: BIOL 151-151L or BIOL 153-153L.

**BIOL 383 - Bioethics (COM) Credits: 4**
Ethical, social and policy dilemmas in medicine and biology. Cross-Listed: PHIL 383.

**BIOL 415-415L/515-515L - Mycology and Lab (COM) Credits: 3**
Comprehensive taxonomic survey of the kingdom Fungi; reproductive biology, physiology, genetics, and ecology of fungal organisms; relationship to fungi to human affairs. Laboratory experience that accompanies BIOL 415-415L/515-515L. Prerequisites: BIOL 101-101L or BIOL 103-103L or BIOL 151-151L or BIOL 153-153L. Corequisites: BIOL 415L-415/BIOL 515L-515. Cross-Listed: PS 415-415L/515-515L.

**BIOL 439-539 - Biology of Aging Credits: 3**
Physical, sensory, and physiological changes with age, aging of cells and tissues. Cellular, developmental, endocrine and other theories of aging. Pathologies of aging. Prerequisites: BIOL 325.

**BIOL 448-548 - Molecular and Microbial Genetics Credits: 4**
This course in molecular genetics will cover the concepts and the molecular mechanisms in genetics of prokaryotic and eukaryotic organisms. Students will study the molecular processes underlying gene structure and function, will learn the major components and their basic structures in molecular genetics, will understand the molecular mechanisms of major biological processes such as gene expression and regulation, and will learn to interpret the results from the literature in molecular genetics. In addition, the course will provide a comprehensive coverage of the common molecular tools and their applications. Prerequisites: BIOL 204 or BIOL 371. Cross-Listed: MICR 448-548.

**BIOL 466-566 - Environmental Toxicology and Contaminants (COM) Credits: 3**
This course will prepare students in the area of Ecological Effects of Toxic Substances and other contaminants. Wildlife toxicology and impacts of agriculture on the Northern Plains will be emphasized. Topics covered will include pesticides, heavy metals, aquatic and terrestrial ecotoxicity and other topics related to Wildlife Toxicology. Prerequisites: BIOL 151-151L or BIOL 153-153L. Cross-Listed: NRM 466-566.

**BIOL 467-467L/567-567L - Parasitology and Lab (COM) Credits: 3**
The broad field of animal parasitology, including protozoa, helminths, and arthrodpods. Emphasis on identification, life histories, control, and economic and medical importance. Laboratory includes morphology and identification of representative groups of parasites, as well as techniques of diagnosis of parasitic disease. Laboratory experience that accompanies BIOL 467. Prerequisites: BIOL 101 or BIOL 151. Corequisites: BIOL 467L-467/BIOL 567L-567.

**BIOL 470-570 - Cancer Biology (COM) Credits: 3**
This course will address the current research directed at understanding the molecular and cellular basis of cancer and explore potential therapeutic targets. Topics covered will emphasize cell cycle regulation and apoptosis, cellular control of proliferation and differentiation, genetic alterations, growth factors and signal transduction, invasion and metastasis, and angiogenesis. Prerequisites: BIOL 202 or BIOL 204 or BIOL 371 or BIOL 446 or instructor consent.

**BIOL 476-576 - Advanced Mammalian Physiology Credits: 4**
An advanced study of the physiological mechanisms utilized by mammals to regulate body functions with the nervous and endocrine systems, to acquire and use chemical energy from their environment, and to integrate the functions of the organs' systems to maintain the health of the animal. Emphasis is placed on applying physiological concepts and principles to solve problems. Previous courses in anatomy, physiology, and biochemistry are recommended. Prerequisites: BIOL 221 or VET 223 or instructor written consent. Cross-Listed: VET 476-576.

**BIOL 483-583 - Developmental Biology (COM) Credits: 3**
Analysis of the processes of animal development beginning with the formation of female and male gametes (ova and sperm) and ending with organ differentiation. Evolutionary concepts of animal development, developmental genetics, and molecular biological approaches to the analysis of development. Prerequisites: (BIOL 151-151L and BIOL 153-153L) or BIOL 371 or BIOL 471.

**BIOL 483L - Developmental Biology Lab (COM) Credits: 1**
Laboratory experience that accompanies BIOL 483.

**BIOL 490 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**BIOL 491 - Independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**BIOL 492-592 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**BIOL 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**BIOL 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**BIOL 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**BIOL 594 - Internship (COM) Credits: 1-12**

**BIOL 645L - Microimaging Techniques Lab Credits: 1-3**

**BIOL 719 - Professional Development Seminar Credits: 1-4**

**BIOL 721 - Advanced Human Anatomy Credits: 4**

**BIOL 721L - Advanced Human Cadaver Dissection Credits: 0**

**BIOL 743 - Cell Biology (COM) Credits: 3**

**BIOL 782 - Epidemiology Credits: 3**

**BIOL 788 - Master's Research Problems/Project (COM) Credits: 1-3**

**BIOL 790 - Seminar (COM) Credits: 1-3**

**BIOL 791 - Independent Study (COM) Credits: 1-4**

**BIOL 792 - Topics (COM) Credits: 1-6**

## BIOS (Biological Sciences)

**BIOS 662 - Advanced Molecular Biology Credits: 3**

**BIOS 663 - Advanced Concepts in Infectious Disease Credits: 6**

**BIOS 664 - Molecular Plant Physiology Credits: 3**

**BIOS 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**BIOS 790 - Seminar (COM) Credits: 1**

**BIOS 791 - Independent Study (COM) Credits: 1-6**

**BIOS 792 - Topics (COM) Credits: 1-6**

**BIOS 794 - Internship (COM) Credits: 1-6**

**BIOS 796 - Field Experience (COM) Credits: 1-6**

**BIOS 798 - Thesis (COM) Credits: 1-10**

**BIOS 898D - Dissertation PhD (COM) Credits: 1-7**

## BLAW (Business Law)

**BLAW 350 - Legal Environment of Business (COM) Credits: 3**
This is a study of legal topics as they apply to the business environment. Topics include an introduction to the law, the U.S. Court system, legal process, government regulation, and criminal, tort, and contract issues. Cross-Listed: BADM 350.

**BLAW 351 - Business Law (COM) Credits: 3**
This course involves a thorough study of the law of contracts, sales, product liability, agency, corporations and other selected topics. Prerequisites: BADM/BLAW 350. Cross-Listed: BADM 351.

**BLAW 352 - Agricultural Law Credits: 3**
Legal rights and duties of parties to agricultural business transactions: sales, secured transactions, real and personal property, business associations, labor relations, bankruptcy, water and drainage, and livestock. Emphasis is on South Dakota law. Cross-Listed: AGEC 352. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**BLAW 366 - Food Law Credits: 3**
Introduce U.S. statutes, regulations, and court cases relating to food safety concerns so students are prepared to handle real-world situations involving food safety. Students will gain an understanding of where and how to locate laws relating to food safety; the relationship between a statute, a regulation, and a court decision; and who has the authority to interpret them. The course also provides an overview of the interaction among federal and state food safety laws, and the expanding role of international food standards. Cross-Listed: AGEC 366. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**BLAW 433 - Real Estate (COM) Credits: 3**
This course is a study of real property interests including brokerage, law, financing, investments, appraisal, property development, property management and marketing.

**BLAW 451-551 - Public Health Law Credits: 3**
Will investigate issues across a range of specific contexts in public health such as communicable disease control, public health class action litigation and medical care e.g., the right to have and refuse medical care, confidentiality and privacy). Issues include how health policies are developed; the impact current and potential policies have and will have on public health; the courts role and interpretations of public health law; and the interaction of national, state, local, and interest group politics in the formation of policies. The course will focus on the states' roles and the constitutions of the states as well as the Tenth Amendment of the United States Constitution. Cross-Listed: HLTH 451-551.

**BLAW 453 - Principles and Procedures of Valuation Credits: 4**
Provides the first two parts of specific curriculum required for licensure by Appraisal Qualifications Board for individuals seeking a career in professional valuation services. Principles of valuation and appraisal procedures with concentration on the valuation process and techniques to apply. Topics include real property concepts and characteristics, legal considerations, influences on real estate values, types of value, economic principles, market area analysis, highest and best use, and ethical considerations. Prerequisites: BLAW 433 and junior class standing or higher.

**BLAW 457-557 - Business Ethics (COM) Credits: 3**
This course is a study of the ethical implications of managerial decisions. Topics covered include the responsibility of the organization to the individual and society, the role of the individual within the organization, and ethical systems for American business. The course provides an examination and assessment of current American business practices. Cross-Listed: AGEC 457-557/BADM 457-557.

**BLAW 462-562 - Environmental Law Credits: 3**
Introduction to regulatory theory, externalities and market failures, definition of key regulations affecting agribusiness, overview of local government law, and delineation of environmental laws relating to agriculture. Current environmental issues are related to statutory, administrative, and regulatory authorities. Cross-Listed: AGEC 462-562. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**BLAW 467-567 - Labor Law and Economics Credits: 3**
Explores history and development of the U.S. labor movement; the labor market from firm's and union's viewpoint; contract administration; collective bargaining; and public policy toward collective bargaining. Also explores current topics in employment law, discrimination, and employment at will. Cross-Listed: ECON 467-567.

**BLAW 490-590 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**BLAW 491-591 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**BLAW 492-592 - Topics (COM) Credits: 1-4**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**BLAW 494-594 - Internship (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**BLAW 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**BLAW 596 - Field Experience (COM) Credits: 1-3**

**BLAW 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**BLAW 792 - Topics (COM) Credits: 1-4**

## BOT (Botany)

**BOT 127 - Ethnobotany Credits: 3**
This course is designed to provide an overview of the traditional and current uses of plants native to the Great Plains The course will help students: (1) Become familiar with standard field keys and to become competent with identification of plants of the region. (2) Learn to find and recognize 40-50 plant species of special significance to the indigenous peoples of the region. (This includes sight identification, knowledge of common plant habitats, preparation of herbarium collections, methods of propagation and modern horticultural practices.) (3) Participate in hands-on demonstrations of traditional and modern methods for the preparation and utilization of native plants (e.g. cooking, dye making) (4) Discover and share with the class in-depth information on one native plant species, not covered in the formal portion of the class.

**BOT 201-201L - General Botany and Lab (COM) [SGR #6] Credits: 3**
A phylogenetic approach to the study of plant diversity and evolutionary relationships emphasizing structure and function of plant systems. Laboratory experience that accompanies BOT 201. Prerequisites: BIOL 101-101L or BIOL 151-151L. Corequisites: BOT 201L-201. Notes: Course meets SGR #6.

**BOT 301-301L - Plant Systematics (COM) Credits: 3**
Principles of phylogeny, classification, nomenclature, evolution; demonstrations, field study and laboratory practice in collection, preserving, and identifying plants. Prerequisites: BIOL 151-151L or BIOL 153-153L. Corequisites: BOT 301L-301.

**BOT 303-303L - Forest Ecology and Management and Lab Credits: 3**
The basics of environmental factors which control the growth of trees and forests and how forests in North America are managed. Corequisites: BOT 303L-303. Cross-Listed: HO 303-303L.

**BOT 327-327L - Plant Physiology and Lab Credits: 4**
Chemical and physical principles of plant function including water relations and energy metabolism; genetic, environmental and hormonal regulation of plant growth and development; and plant responses to stress. Laboratory experience the accompanies BOT 327. Prerequisites: Select one group: BIOL 101 and BIOL 103; or BIOL 151 and BIOL 153; or BOT 201 and BIOL 101; or BOT 201 and BIOL 151. Corequisites: BOT 327L-327.

**BOT 405-405L/505-505L - Grasses and Grasslike Plants and Lab Credits: 3**
A systematic survey of grasses and grasslike plant of the northern Great Plains; field and lab practice in collection and identification of graminoid plants; discussion of unique biological aspects of grasses and grasslike plants that make them economically and ecologically significant. Laboratory experience that accompanies BOT 405-505. Prerequisites: BIOL 101-101L or BIOL 151-151L. Corequisites: BOT 405L-405/505L-505.

**BOT 415-415L/515-515L - Aquatic Plants and Lab Credits: 3**
A systematic survey of vascular plants that grow in wetland habitats, and a study of their adaptations to life in the water. Field and laboratory practice in identification and recognition of common aquatic plans. Laboratory to accompany BOT 415-515. Prerequisites: BIOL 103 or BIOL 153. Corequisites: BOT 415L-415/515L-515.

**BOT 419-419L - Plant Ecology and Lab (COM) Credits: 3**
Description of plant communities, their dynamics and instruction. Environmental factors and their relationship with plants. Field trips. Laboratory experience that accompanies BOT 419. Prerequisites: BIOL 103 or BIOL 153 or BOT 201. Corequisites: BOT 419L-419.

**BOT 491 - Independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**BOT 492 - Topics (COM) Credits: 1-5**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

**BOT 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses.

**BOT 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**BOT 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**BOT 715-715L - Advanced Plant Ecology and Lab Credits: 4**

**BOT 791 - Independent Study (COM) Credits: 1-4**

**BOT 792 - Topics (COM) Credits: 1-5**

## CA (Consumer Affairs)

**CA 110 - Individual Financial Literacy Credits: 1**
Introduction to personal financial management. Topics covered include banking; budgeting; and financial statements.

**CA 111 - Individual Financial Management Credits: 1**
Introduction to personal financial management. Topics covered include leasing and buying; credit cards and credit management; and time value of money.

**CA 150 - Introduction to Consumer Affairs Credits: 2**
Foundations of the discipline of consumer affairs, including history and mission; role in meeting the needs of individuals and families through business, public and government sectors; the integrative nature of the discipline; and career opportunities. Analyze professionals traits, personal skills and knowledge needed to attain a position in the desired profession of consumer affairs. Overview of courses and sequencing for the Consumer Affairs major.

**CA 230 - Consumer Behavior Credits: 3**
Understanding cultural, economic, social, psychological conditions, and media environments that influence the consumer purchase process in the marketplace. Study of diverse types of consumer subcultures. Cross-Listed: CS 230.

**CA 289 - Consumers in the Market Credits: 3**
Welfare of the consumer in relation to government regulation, policies, laws, consumer rights and responsibilities, and the economic system.

**CA 321 - Consumer Needs and Program Funding Credits: 3**
Students will develop skills to conduct consumer needs assessments to inform program planning. Grant proposal writing will focus on program needs impacting resource access and availability for individuals, families and communities. Skills will be demonstrated through the development of a needs assessment and grant proposal.

**CA 340 - Work Family Interface Credits: 3**
Introduction to resource management theories, processes and principles as applied to efficient use of human, time, social, and material resources in promotion of individual and family well-being. Balancing work and family is addressed as an application of family resource management. Prerequisites: ENGL 201.

**CA 345 - Foundations in Financial Management Credits: 3**
Financial resource management related to the economic aspects of family financial planning. Specifically addresses major financial planning issues and problems that individuals and families encounter including goal setting, saving, borrowing, risk management, basic tax structure, investment diversification, and basic considerations for retirement and estate planning. Emphasis will be given to application of time value of money across the content.

**CA 350 - Family Financial Management I Credits: 3**
Principles and practices of insurance needs and selection, investment strategies to realize financial goals and income tax planning to improve financial well-being of families. Technical skills required of family financial planners are emphasized. Prerequisites: CA 345.

**CA 360-360L - Quantitative Research Methods in Consumer Affairs and Lab Credits: 4**
Developing and analyzing quantitative research in the area of consumer and family economics. Research ethics, basic statistical analysis, and interpretation of quantitative data will be focused to provide students meaningful tools to understand the issues related to consumers. Prerequisites: CA 340. Corequisites: CA 360L-360.

**CA 375 - Financial Counseling and Debt Management Credits: 3**
Students will develop skills to educate individuals and families in financial planning and management with an emphasis on debt counseling. Effective counseling techniques and practices will be explored. Prerequisites: CA 345.

**CA 412 - Consumer Policy Analysis Credits: 2**
Analysis of emerging issues and related consumer policies facing individuals, families and the global community. Prerequisites: CA 494.

**CA 430 - Consumer Decision Making Credits: 3**
Study of theories and principles in judgment and decision making and behavioral economics. Barriers and strategies to improve consumer judgment and decision-making will be addressed including heuristics and biases, role of emotion and social forces. Cross-Listed: CS 430.

**CA 442 - Family Resource Management Lab Credits: 3**
Application of resource management concepts to improve individual and family economic well-being. The course emphasis is placed on managerial activities of families with limited resources. Management involves facing opportunities and solving the practical problems of everyday life, coordinating the activities of family members and making and implementing decisions. A required service learning experience (20 hours) will provide an opportunity for direct application of resource management concepts to the problem solving process. Prerequisites: Must be junior or senior standing.

**CA 450 - Family Financial Management II Credits: 3**
Principles and practices of retirement planning, saving and estate planning to improve financial well-being of families. Comprehensive case study will incorporate family financial planning principles addressed in CA 350 (Family Financial Management I). Prerequisites: CA 350.

**CA 460 - Financial Counseling Lab Credits: 3**
Through active engagement in hands-on and reflective activities, this course focuses on skill development for future financial counseling professionals. Prerequisites: CA 345 and CA 375.

**CA 487 - Transition to the Professional World Credits: 2**
Students acquire personal and professional skills necessary for success in the workplace. Students will secure an internship and address internship expectations. Prerequisites: CA 150, CA 230, CA 289 and CS 377.

**CA 490 - Seminar (COM) Credits: 1-3**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students. Prerequisites: CA 494.

**CA 491 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**CA 492-592 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**CA 494 - Internship (COM) Credits: 3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than in the case with field experience courses. Prerequisites: CA 340, CA 345 and CA 487. Notes: Consumer Affairs Major, senior class standing.

**CA 496 - Field Experience (COM) Credits: 2**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**CA 595 - Practicum (COM) Credits: 3-6**

**CA 612 - Financial Counseling Credits: 3**

**CA 621 - Financial Theory and Research I Credits: 3**

**CA 640 - Fundamentals of Family Financial Planning Credits: 3**

**CA 645 - Military Personal Financial Readiness Credits: 3**

**CA 660 - Invest for Family's Future Credits: 3**

**CA 680 - Insurance Planning for Families Credits: 3**

**CA 704 - Estate Planning for Families Credits: 3**

**CA 715 - Housing and Real Estate in FFP Credits: 3**

**CA 721 - Financial Theory and Research II Credits: 3**

**CA 725 - Family, Employee Benefits and Retirement Planning Credits: 3**

**CA 735 - Personal Income Taxation Credits: 3**

**CA 745 - Professional Practices in Financial Planning Credits: 3**

**CA 755 - Financial Planning Case Study Credits: 3**

**CA 788 - Master's Research Problems/Projects (COM) Credits: 3**

**CA 790 - Seminar (COM) Credits: 3**

**CA 792 - Topics (COM) Credits: 1-3**

**CA 798 - Thesis (COM) Credits: 1-6**

## CD (Community Development)

**CD 592 - Topics (COM) Credits: 3**

**CD 600 - Foundations of Community Development Credits: 3**

**CD 601 - Organizing for Community Change Credits: 3**

**CD 602 - Community and Regional Economic Policy and Analysis Credits: 3**

**CD 603 - Community Natural Resource Management Credits: 3**

**CD 604 - Community Analysis Credits: 3**

**CD 605 - Principles & Strategies of Community Change Credits: 3**

**CD 611 - Impact Analysis Credits: 1**

**CD 612 - Housing and Development Credits: 3**

**CD 613 - Introduction to Native Community Development Credits: 3**

**CD 616 - Public and Nonprofit Budgeting Credits: 3**

**CD 617 - Role of Tribal colleges in Economic Development Credits: 1**

**CD 623 - Ecological Economics Credits: 3**

**CD 624 - Building Native Community and Economic Capacity Credits: 3**

**CD 626 - Economic Development Strategies Credits: 3**

**CD 631 - Evaluation of Organizations and Programs Credits: 3**

**CD 633 - Introduction to Environmental Law Credits: 3**

**CD 634 - Native American Natural Resource Management Credits: 3**

**CD 635 - Sustainable Communities Credits: 3**

**CD 637 - Immigration and Communities Credits: 3**

**CD 638 - Community and Regional Economic Analysis II Credits: 3**

**CD 641 - Leadership for Change Credits: 3**

**CD 642 - Grant Writing Credits: 3**

**CD 643 - Nonprofit Management Credits: 3**

**CD 644 - Participatory Action Research Methods Credits: 3**

**CD 645 - Community Developer as Community Educator Credits: 3**

**CD 791 - Independent Study (COM) Credits: 1-3**

**CD 792 - Topics (COM) Credits: 3**

**CD 794 - Internship (COM) Credits: 3**

**CD 795 - Practicum (COM) Credits: 3**

## CEE (Civil & Environmental Engineering)

**CEE 101 - Introduction to Civil Engineering Credits: 1**
An introductory course to the Civil Engineering profession where students will learn about and explore the profession through guest speakers and activities.

**CEE 106-106L - Elementary Surveying and Lab Credits: 3, 1**
Course topics include land measurement theory, definition and analysis of errors, horizontal curves, traverse work and construction surveying and an introduction to the concepts and applications of GPS and GIS to surveying practice. Lab topics include care and operation of instruments, concepts of horizontal and vertical control; measurement of horizontal distances, vertical angles and elevation differences, field data quality and errors. Prerequisites: MATH 115 or MATH 120. Corequisites: CEE 106L-106.

**CEE 216-216L - Civil Engineering Materials and Lab Credits: 2, 1**
Basic structure and properties of engineering materials, the effect of environmental conditions on mechanical and physical properties, emphasis is on civil engineering materials such as steel, aluminum, polymers, cement and timber. Testing of mechanical properties of civil engineering materials including stress and strain measurement. Proportioning, mixing and testing of small concrete batches. Proper analysis and reporting of laboratory data is emphasized. Prerequisites: CHEM 112. Corequisites: CEE 216L-216.

**CEE 225 - Principles of Environmental Science and Engineering Credits: 3**
Introduction to the basic principles of environmental management, environmental science and engineering, and natural resources engineering. The class will be team taught by faculty from environmental management, civil and environmental engineering, agricultural and biosystems engineering, and agricultural systems technology programs. The course will teach the fundamental physical, biological, and chemical principles of environmental processes. The course will also explore the impact of humans and human activity on ecosystems in the environment. Prerequisites: CHEM 106 or CHEM 114.

**CEE 282 - Civil Engineering Computer-Aided Design Credits: 3**
Basic drawing techniques will be presented using an industry standard civil engineering software program. Computer-aided design techniques for civil engineers will be presented including topics such as input of surveying data for boundary and topography, creation of a digital terrain models, roadway alignments, earthwork, grading plans, plans and profiles and cross section drawings as they relate to the civil engineering. Prerequisites: CEE 101 and CEE 106-106L. Notes: A PC Laptop computer is required for this course.

**CEE 311 - Structural Materials Lab Credits: 1**
Laboratory tests on structural elements and interpretation of test results. Use of state of the art manufacturing techniques and use of software are required. Proper laboratory technique and experimental design as well as professional communication is emphasized. Prerequisites: CEE 216-216L. Corequisites: EM 321.

**CEE 323 - Water Supply and Wastewater Engineering Credits: 3**
Analysis of water and wastewater quality, water demands and wastewater flows; water and wastewater treatment process concepts; preliminary design of unit processes for municipal water and wastewater treatment systems, impacts of regulations on system design. Prerequisites: CEE 225.

**CEE 331 - Fluid Mechanics Lab Credits: 1**
Measurement of properties of common fluids, and tests on fluids in motion Corequisites: EM 331.

**CEE 340-340L - Engineering Geology and Lab Credits: 3**
Basic principles of physical geology and soil mechanics from a civil and environmental engineering prospective; Topics include minerals, rocks, mechanics of rock materials, weathering, engineering properties of soil, unified soil classification system, groundwater, subsurface contamination, hazardous geologic processes, and waste disposal methods. Identification of minerals and rocks, classification of soils, and measurement of index properties of soils. Prerequisites: CEE 216-216L. Corequisites: CEE 340L-340.

**CEE 346-346L - Geotechnical Engineering (COM) and Lab Credits: 4**
Composition, structure, index, and engineering properties of soils, soil classification systems, introduction to soil engineering problems involving stability, settlement, seepage, consolidation, and compaction; and laboratory work on the determination of index and engineering properties of soils. Computer-aided graphics and word processing are required for lab reports. Prerequisites: EM 321. Corequisites: CEE 346L-346.

**CEE 353 - Structural Theory (COM) Credits: 3**
Basic concepts in structural analysis of beams, trusses, and frames. Determination of governing load conditions for moving loads by use of influence lines. Development of basic virtual work concept to obtain deflections for beams, trusses, and frames. Introduction to slope deflection equations and the moment-distribution for analysis of indeterminate structure. Prerequisites: EM 321.

**CEE 363 - Highway and Traffic Engineering Credits: 3**
Highway administration, traffic characteristics, highway standards, drainage, geometric design, construction methods. Prerequisites: CEE 106.

**CEE 411-411L/511-511L - Asphalt Materials and Mix Design and Lab Credits: 3**
Properties of aggregates and asphaltic materials related to asphalt mixes. Various types of asphalt pavements and mix design methods. Plant operations, construction methods and equipment used in the production of asphalt. Asphalt mix design and testing with an emphasis on Superpave mix design method. Introduction to recycling and sustainable asphalt pavement materials. Performance of standard tests on asphalt products and mixtures to determine various characteristics. Emphasis will be placed on professional communication and the interpretation of test results. Prerequisites: CEE 216-216L, CEE 363, and EM 321. Corequisites: CEE 411L-411/511L-511.

**CEE 422-422L/522-522L - Environmental Engineering Instrumentation and Lab Credits: 3**
Development of an understanding of standard analytical methods for parameters commonly measured in liquid environmental systems. Analysis of water and wastewater samples using environmental laboratory instrumentation. Development of laboratory skills in water and wastewater analysis. Prerequisites: CEE 225 or consent. Corequisites: CEE 422L-422/522L-522.

**CEE 423-523 - Municipal Water Distribution and Collection System Design Credits: 3**
Design of municipal water distribution and collection systems utilizing modern design tools including the utilization of software to simulate system behavior in response to environmental changes. Prerequisites: CEE 323 and EM 331.

**CEE 424-524 - Industrial Waste Treatment Credits: 3**
Characteristics and composition of industrial wastes, sampling and methods of analysis of these wastes and remedial measures for treatment and disposal. Prerequisites: CEE 323.

**CEE 432 - Hydraulic Engineering Credits: 3**
Development of fundamental principles related to closed conduit flow, flow in open channels, open channel transitions and controls, introduction to wave mechanics, hydraulic structures. Prerequisites: EM 331.

**CEE 434-534 - Hydrology Credits: 3**
Principles of hydrology. Components of the hydrological cycle including the impact of precipitation, evaporation, infiltration, ground water flow and surface runoff on flow routing, water availability, extreme flows and drainage systems. Prerequisites: Senior standing. Corequisites: NRM 282-282L or STAT 281 or STAT 381.

**CEE 435-535 - Water Resources Engineering Credits: 3**
Topics related to water resources engineering including: multiple purpose river development, economic analysis of flood control measures, aspects of water law, advanced topics related to surface and ground water hydrology and administrative aspects of water resources planning. Prerequisites: CEE 225 and senior standing.

**CEE 436-536 - Advanced Hydraulic Engineering Credits: 3**
Advanced topics related to hydraulic engineering including: dimensional analysis, turbulence in open-channel flows, mechanics of sediment transport, coastal hydraulics and stream channel mechanics, hydraulic structures, unsteady flows, numerical and physical modeling. Prerequisites: EM 331.

**CEE 438-538 - Environmental Fluid Mechanics Credits: 3**
Develop a basic understanding of the physical processes in turbulent flows that are important to the transport and dispersion of contaminants and materials in surface waters. This course will introduce the analytical, computational, and experimental tools commonly used to solve environmental fluid mechanics problems. Topics covered include dynamics of turbulence, turbulent diffusion, shear flow dispersion, stratified flows and mixing in rivers and lakes. Prerequisites: EM 331.

**CEE 443-543 - Matrix Analysis of Structures Credits: 3**
Theory and application of matrix methods in structural analysis. Prerequisites: CEE 353.

**CEE 446-546 - Advanced Geotechnical Engineering Credits: 3**
Development of a fundamental understanding of engineering properties of soils and the factors controlling their magnitude and changes with time and environment. Development of why this knowledge is important and how it can be used in the solution of geotechnical and geoenvironmental problems. Prerequisites: CEE 346.

**CEE 447-547 - Foundation Engineering (COM) Credits: 3**
Application of the fundamental concepts of soil behavior to evaluation, selection, and design of shallow and deep foundation systems. Related topics such as temporary support systems for excavations and pile driving are also included. Prerequisites: CEE 346. Notes: Students enrolling in CEE 547 will be held to a higher standard than those enrolling in CEE 447.

**CEE 452-552 - Prestressed Concrete Credits: 3**
Theory and design of prestressed concrete including pre-tensioning and post-tensioning. Prerequisites: CEE 456.

**CEE 455 - Steel Design Credits: 3**
Limited states in design and the probabilistic nature of loads and resistance. Design of members subjected to tension, axial compression, bending and combined forces. Elementary concepts of frame design with an introduction to secondary effects. The importance of structural stability in design is stressed. Design of basic bolted and welded connections. Prerequisites: CEE 353.

**CEE 456 - Concrete Theory and Design (COM) Credits: 3**
Properties and behavior of concrete and reinforcing steel. Analysis and design of structural slabs, beams, girders, columns, and footings with use of strength methods. Deflection of flexural members. Development of reinforcement. Prerequisites: CEE 353.

**CEE 458-558 - Design of Timber Structures Credits: 3**
Gravity and lateral loads, physical and mechanical properties of wood, properties of dimension lumber and glued laminated timber, design of beams and columns, properties of structural wood panels. Design of sheathing, diaphragms and shearwalls. Design of connections. Prerequisites: CEE 353.

**CEE 464 - Civil Engineering Capstone Design I (COM) Credits: 1**
Content will include major engineering design experience integrating fundamental concepts of mathematics, basic science, engineering science, engineering design, communication skills, humanities, and social science. Prerequisites: Senior standing.

**CEE 465 - Civil Engineering Capstone Design II (COM) Credits: 2**
Content will include major engineering design experience integrating fundamental concepts of mathematics, basic science, engineering science, engineering design, communications skills, humanities, and social science. Prerequisites: CEE 464.

**CEE 467-567 - Transportation Engineering Credits: 3**
Engineering principles in various common modes of transportation. Prerequisites: CEE 363.

**CEE 482 - Engineering Administration Credits: 3**
Law of contracts, agency, and other legal aspects of engineering. Preparation of specifications. Economic aspects of engineering. Prerequisites: Senior standing.

**CEE 488 - Professional Seminar Credits: 1**
Students will recognize the need for life-long learning and the importance of professional licensure and credentials. This course will also provide students with experience in applying the profession's ethical standards in analyzing and evaluating ethical dilemmas and increase student's oral communication skills. Prerequisites: Senior standing and permission of instructor.

**CEE 490 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**CEE 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**CEE 492-592 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**CEE 494 - Internship (COM) Credits: 1-6**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**CEE 498 - Undergraduate Research/Scholarship (COM) Credits: 1-6**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**CEE 692 - Topics (COM) Credits: 1-3**

**CEE 702 - Advanced Civil and Environmental Engineering Credits: 1**

**CEE 720 - Water Treatment Plant Design Credits: 3**

**CEE 725 - Biological Principles of Environmental Engineering Credits: 3**

**CEE 726-726L - Physical/Chemical Principles of Environmental Engineering and Lab Credits: 3**

**CEE 729-729L - Waste Water Treatment Plant Design and Lab Credits: 3**

**CEE 732 - Advanced Foundation Engineering Credits: 3**

**CEE 733 - Topics - Water Resources Engineering Credits: 3**

**CEE 749-749L - Geotechnical Testing and Lab Credits: 3**

**CEE 754 - Advanced Design of Steel Structures Credits: 3**

**CEE 755 - Advanced Reinforced Concrete Design Credits: 3**

**CEE 756 - Reinforced Masonry Design Credits: 3**

**CEE 759 - Structural Dynamics Credits: 3**

**CEE 765 - Pavement Design Credits: 3**

**CEE 769 - Bridge Design Credits: 3**

**CEE 788 - Master's Research Problems/Project (COM) Credits: 1-3**

**CEE 790 - Seminar (COM) Credits: 1**

**CEE 791 - Independent Study (COM) Credits: 1-3**

**CEE 792 - Topics (COM) Credits: 1-12**

**CEE 798 - Thesis (COM) Credits: 1-7**

**CEE 898D - Dissertation (COM) Credits: 1-12**

## CHEM (Chemistry)

**CHEM 105 - Foundations of Chemistry Credits: 3**
A foundational course designed to prepare students for Chemistry 112 and 114. Basic concepts in chemistry including matter, measurement, nomenclature, and stoichiometry will be addressed and mathematical concepts basic to these courses will be practiced.

**CHEM 106-106L - Chemistry Survey and Lab (COM) [SGR #6] Credits: 3, 1**
A one-semester survey of chemistry. Not intended for those needing an extensive chemistry background. Introduction to the properties of matter, atomic structure, bonding, stoichiometry, kinetics, equilibrium, states of matter, solutions, and acid-base concepts. Laboratory designed to accompany CHEM 106. Prerequisites: 1 collegiate math course (MATH 095, MATH 101, MATH 103, MATH 104, MATH 114, MATH 115, MATH 120, MATH 121, MATH 123, MATH 125 or STAT 281) or appropriate placement based on standardized testing in math. Corequisites: CHEM 106L-106. Notes: Course meets SGR #6.

**CHEM 108-108L - Organic and Biochemistry and Lab (COM) [SGR #6] Credits: 4,1**
A survey of the chemical principles important to biological systems. For students who do not plan to take additional chemistry. Not a prerequisite for any 200 level and above course. Laboratory designed to accompany CHEM 108. Prerequisites: CHEM 106-106L. Corequisites: CHEM 108L-108. Notes: Course meets SGR #6.

**CHEM 112-112L - General Chemistry I and Lab (COM) [SGR #6] Credits: 3, 1**
An introduction to the basic principles of chemistry for students needing an extensive background in chemistry (including chemistry majors, science majors, and pre-professional students). Completion of a high school course in chemistry is recommended. Laboratory designed to accompany CHEM 112. Prerequisites: MATH 114, MATH 115, MATH 120, MATH 121-121L, MATH 123, MATH 125, or MATH/STAT 281 or concurrent. Corequisites: CHEM 112L-112. Notes: Course meets SGR #6.

**CHEM 114-114L - General Chemistry II and Lab (COM) [SGR #6] Credits: 3, 1**
A continuation of CHEM 112. An introduction to the basic principles of chemistry for students needing an extensive background in chemistry. Laboratory designed to accompany CHEM 114. Prerequisites: CHEM 112-112L and a MATH course (MATH 114, MATH 115, MATH 120, MATH 121, MATH 123, MATH 125, or STAT 281). Corequisites: CHEM 114L-114. CHEM 114L is not required for Civil Engineering majors. Notes: Course meets SGR #6.

**CHEM 115-115L - Atomic and Molecular Structure and Lab [SGR #6] Credits: 3, 1**
This is the first course in a four-course sequence that serves as an advanced introduction to the principles of general chemistry relevant to preparation for organic chemistry. Topics covered include atomic structure, theories of bonding, molecular structure, inter- and intra-molecular forces, the structure-activity relationship, and qualitative thermochemistry. Laboratory course to accompany CHEM 115. Prerequisites: Completion of a high school course in chemistry is required. Corequisites: CHEM 115L-115 and MATH 114. Notes: This course is intended for students majoring in chemistry or biochemistry, or those who have been admitted to the Honors College. AP credit will not be acknowledged as equivalent to CHEM 115. CHEM 112-112L may not be substituted for CHEM 115-115L unless explicitly allowed by the department head. Course meets SGR #6.

**CHEM 119 - First Year Seminar Credits: 1**
First-year seminar course designed to introduce students to academic success strategies including the development of critical thinking and study skills, guidance in academic planning and engagement, time management and goal setting. In addition, this course is designed to expose students to careers in chemistry and their impact in society. Course will take place during the first 8-weeks of the semester. Prerequisites: Only Chemistry, Chemistry Education and Biochemistry majors may register for this course.

**CHEM 120-120L - Elementary Organic Chemistry and Lab Credits: 2, 1**
Compounds of carbon with emphasis on those of interest to students of Agriculture, Family and Consumer Sciences. Not a prerequisite for any 200 level and above course. Prerequisites: CHEM 106 or CHEM 112. Corequisites: CHEM 120L-120. CHEM 120L is not required for Civil Engineering majors.

**CHEM 127-127L - Structure and Function of Organic Molecules and Lab [SGR #6] Credits: 3, 1**
A continuation of CHEM 115 which introduces the chemistry of carbon containing compounds. It is the second course in a four-course sequence. Topics covered include: nomenclature, functional group analysis, stereochemistry, acid/base chemistry, organic chemistry reactions, mechanistic explanation of electron movement, and thermochemistry of organic reactions. Chemistry, Biochemistry, and Honors College students only. CHEM 326 may not be substituted for CHEM 127 unless explicitly allowed by the department head. Laboratory designed to accompany CHEM 127. Prerequisites: CHEM 115. Corequisites: CHEM 127L-127. Notes: * Course meets SGR #6.

**CHEM 229-229L - Transformations of Organic Molecules and Lab Credits: 3, 1**
A continuation of CHEM 127 which focuses on instrumentation related to analytical organic chemistry, as well as advanced reactions, synthesis and retrosynthetic analysis, and an introduction to biochemistry. It is the third course in a four-course sequence. Credit may not be substituted for CHEM 328 and CHEM 328L. Laboratory designed to accompany CHEM 229. Prerequisites: CHEM 127. Corequisites: CHEM 229L-229.

**CHEM 236 - Equilibrium and Energy in Molecular Systems Credits: 2**
A continuation of CHEM 229, focusing on the theoretical and mathematical aspects of equilibrium and kinetics, with an introduction to electrochemistry. Prerequisites: CHEM 229 and MATH 123. Chemistry, Biochemistry, and Honors College students only. Notes: Credit may not be substituted for CHEM 114-114L.

**CHEM 237 - Intermediate Laboratory Investigations Credits: 1-3**
This laboratory-based course builds upon previous training to include problem-based learning in research contexts. Students will design and implement experiments related to departmental research, evaluate data, and report outcomes of their experimentation. Students will be introduced to various topics related to research ethics, searching the scientific literature, representation of data, scientific writing and communication skills. Prerequisites: CHEM 229-229L.

**CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1**
A systematic treatment of the chemistry of carbon compounds, including nomenclature, structure-reactivity relationships, reaction mechanisms, synthesis, and spectroscopy. Laboratory designed to accompany CHEM 326. Prerequisites: CHEM 114-114L, CHEM 116, or ISCI 153. Corequisites: CHEM 326L-326.

**CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1**
A continuation of CHEM 326. A systematic treatment of the chemistry of carbon compounds, including nomenclature, structure-reactivity relationships, reaction mechanisms, synthesis, and spectroscopy. Laboratory designed to accompany CHEM 328. Prerequisites: CHEM 326-326L. Corequisites: CHEM 328L-328.

**CHEM 329 - Organic Chemistry III Credits: 2**
An advanced undergraduate course in organic chemistry, this course builds upon previous organic chemistry training and will include topics of contemporary synthesis, organometallic chemistry, molecular orbital theory, pericyclic reactions, and physical organic chemistry. Prerequisites: CHEM 229 or CHEM 328. Notes: Co-registration in CHEM 329L is not required.

**CHEM 329L - Organic Chemistry III Lab Credits: 2**
Advanced stand-alone laboratory course for advanced undergraduate organic chemistry. The laboratory course focuses on multistep synthetic methodologies to assemble and analyze complex molecules. Prerequisites: CHEM 229L or CHEM 328L. Notes: Co-registration in CHEM 329 is not required.

**CHEM 332-332L - Analytical Chemistry and Lab (COM) Credits: 3, 1**
Fundamental concepts and principles of quantitative chemical analysis including quantitative chemical equilibrium calculations and error analysis applied to the evaluation of experimental measurements and data. Laboratory to accompany CHEM 332. Prerequisites: CHEM 114 or CHEM 116 or CHEM 127. Corequisites: CHEM 332L-332.

**CHEM 343 - Fundamentals of Chemical Thermodynamics Credits: 2**
A foundational course in physical chemistry, covering advanced theories and applications of thermodynamics. Topics include the first, second, and third laws of thermodynamics and their application to chemical reactions. Prerequisites: CHEM 114 or CHEM 236; and MATH 123.

**CHEM 343L - Fundamentals of Chemical Thermodynamics Lab Credits: 1**
Laboratory to accompany CHEM 343.

**CHEM 345 - Quantum Mechanics of Chemical Systems Credits: 2**
Applications of quantum mechanics to chemical systems. Topics include comparative study of classical and quantum mechanics, the foundations of quantum mechanics, problems with exact solutions, and molecular spectroscopy. Prerequisites: CHEM 343, MATH 125 and PHYS 213.

**CHEM 347 - Chemical Kinetics Credits: 2**
Course devoted to the study of reaction rates. Topics include the kinetic molecular theory of gases, transport processes, reaction kinetics, and theories of reaction rates. Prerequisites: CHEM 343, MATH 125 and PHYS 213.

**CHEM 360 - Chemistry of Biological Macromolecules Credits: 3**
The first semester of a comprehensive course in biochemistry, focusing on an introduction to the classes of biological macromolecules with specific emphasis on the structure and diverse functions of proteins, enzyme kinetics, energy requirements, and regulation of cellular functions. Prerequisites: CHEM 229. Chemistry Majors, Biochemistry Majors, Honors College Students only.

**CHEM 361 - Chemistry of Biological Macromolecules Laboratory Credits: 1**
Laboratory techniques related to an in-depth study of biochemistry and the physical/chemical manipulation of biomolecules. Prepares students for required research or internship experience (CHEM 498 or CHEM 494, respectively) in biochemistry. Prerequisites: CHEM 229L and CHEM 360. Chemistry Majors, Biochemistry Majors, Honors College Students only.

**CHEM 432 - Analytical Chemistry II Credits: 2**
Theory and applications of electrochemistry, atomic spectroscopy, X-rays, surface characterization, thermal methods, and radiochemistry applied to chemical analysis. Prerequisites: CHEM 332.

**CHEM 433 - Bioanalytical Chemistry Credits: 2**
Introduction to the principles and methods of analytical techniques applied to biochemical systems, including method validation, separations, microscopy, and related techniques. Prerequisites: CHEM 332 and CHEM 360 or CHEM 464.

**CHEM 448-448L - Biophysical Chemistry and Lab Credits: 3, 1**
A study of the fundamental principles governing the physical chemistry of biological systems. Topics covered include the forces governing protein and nucleic acid stability, the thermodynamics of protein folding and protein-ligand interactions, bioenergetics, kinetics of biochemical reactions, biological membranes and membrane transport. The physical basis of protein purification, probing protein-ligand interactions, and the determination of macromolecular structure is also discussed. Laboratory to accompany CHEM 448. Fundamental physical chemistry principles and techniques of physical chemistry used in studying biomacromolecules and biological systems. Prerequisites: CHEM 360 or CHEM 464 and MATH 125. Corequisites: CHEM 448L-448.

**CHEM 452-452L - Inorganic Chemistry and Lab (COM) Credits: 3, 1**
Theoretical and periodic aspects of inorganic chemistry. Synthesis and characterization of inorganic compounds. Prerequisites: CHEM 326-326L or CHEM 332-332L or CHEM 352 or CHEM 442. Corequisites: CHEM 452L-452.

**CHEM 455-555 - Surface Engineering and Functionalization (COM) Credits: 1**
This course will provide an introduction to the fundamentals and applications of surface engineering and functionalization technologies. Course topics will include thin film deposition technologies, thick coating, and organic coating methods. The course will also introduce concepts on surface functionalization, coating characterization, and electrochemical surface modifications.

**CHEM 464 - Biochemistry I (COM) Credits: 3**
A study of the fundamental principles governing the behavior of biochemical systems. Topics covered in the two semester sequence include the study of proteins, lipids and carbohydrates, metabolic processes, biological oxidation and reduction processes, molecular aspects of DNA replication and repair pathways, transcription and RNA processing, and protein translation. Prerequisites: CHEM 229 or CHEM 328.

**CHEM 465 - Biochemistry II (COM) Credits: 3**
A continuation of CHEM 464. Prerequisites: CHEM 464.

**CHEM 466 - Laboratory Methods- Biochemistry Credits: 1**
A study of fundamental biochemistry laboratory skills, including, protein isolation and analysis by electrophoresis, enzyme kinetics and spectroscopic analysis of biomolecules. Prerequisites: CHEM 464.

**CHEM 467-567 - Essentials of Glycobiology Credits: 3**
This course focuses on glycobiology, the field of science that studies the structure, biosynthesis, biology, and evolution of saccharides (sugar chains or glycans) that are found in all living life systems. This course with will include the following topics: general principles of carbohydrates and carbohydrate chemistry, structure and biosynthesis, glycans in evolution and development, glycan binding proteins, the role of glycans in complex biological systems, glycans in physiology and disease, and various chemical techniques in which to analysis or manipulation glycans. Special emphasis will be placed on understanding the role glycans play in cancer biology and progression. Prerequisites: CHEM 360 or CHEM 464.

**CHEM 482 - Environmental Chemistry (COM) Credits: 3-4**
Examination of the chemistry and chemical processes of the environment, including the role of chemistry in current environmental issues. Prerequisites: CHEM 114-114L or CHEM 127-127L or CHEM 326-326L.

**CHEM 484-584 - Chemical Toxicology Credits: 3**
Understanding of the principles of toxicity, including the molecular basis for toxicity and the environmental fate and transport of chemicals in the environment. Prerequisites: CHEM 360 or CHEM 464.

**CHEM 490 - Seminar (COM) Credits: 1**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students.

**CHEM 491 - Independent Study (COM) Credits: 1-9**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**CHEM 491L - Independent Study in Chemistry Lab (COM) Credits: 0-1**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic. Corequisites: CHEM 491.

**CHEM 492 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**CHEM 494 - Internship (COM) Credits: 1-4**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**CHEM 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**CHEM 548 - Biophysical Chemistry Credits: 3**

**CHEM 691 - Independent Study (COM) Credits: 1-4**

**CHEM 701 - Advanced Organic Chemistry I Credits: 3**

**CHEM 703 - Advanced Physical Chemistry Credits: 3**

**CHEM 704 - Advanced Inorganic Chemistry Credits: 3**

**CHEM 705 - Principles of Biochemistry Credits: 2-5**

**CHEM 706 - Advanced Analytical Chemistry Credits: 3**

**CHEM 707 - Chemical Communication Skills Credits: 2**

**CHEM 711 - Chemical Education Research Credits: 2**

**CHEM 713 - Qualitative Research Methods Credits: 2**

**CHEM 714 - Quantitative Research Methods Credits: 2**

**CHEM 715 - Chemistry Instruction in Higher Education Credits: 2**

**CHEM 722 - Synthesis of Natural Products Credits: 3**

**CHEM 724-724L - Structural Determination of Organic Compounds and Lab Credits: 3**

**CHEM 725 - Genetics of Human Disease (COM) Credits: 3**

**CHEM 731 - Advanced Environmental Chemistry Credits: 3**

**CHEM 733 - Atmospheric Chemistry Credits: 3**

**CHEM 739 - Chromatography and Separation Credits: 3**

**CHEM 740 - Analytical Spectroscopy Credits: 3**

**CHEM 760 - Laboratory Rotations in Biochemistry Credits: 1-2**

**CHEM 762 - Molecular Mechanisms of Disease (COM) Credits: 3**

**CHEM 763 - Developmental Biology of Disease (COM) Credits: 3**

**CHEM 766 - Biochemistry II Credits: 3**

**CHEM 770 - Atomic Theory & Bonding Credits: 3**

**CHEM 771 - Intermolecular Interactions & Phases of Matter Credits: 3**

**CHEM 772 - Thermodynamics Credits: 3**

**CHEM 773 - Equilibria & Acid-Base Chemistry Credits: 3**

**CHEM 774 - Kinetics, Nuclear, & Electrochemistry Credits: 3**

**CHEM 775 - Organic & Biochemistry Credits: 3**

**CHEM 776 - Laboratory Development Credits: 3**

**CHEM 777 - Action Research in the Secondary Classroom Credits: 2**

**CHEM 778 - Chemistry Teaching Strategies Credits: 3**

**CHEM 788 - Research Problems in the Chemistry Classroom Credits: 1-2**

**CHEM 790 - Seminar (COM) Credits: 1**

**CHEM 792 - Topics (COM) Credits: 1-6**

**CHEM 798 - Thesis (COM) Credits: 1-7**

**CHEM 898D - Dissertation (COM) Credits: 1-12**

## CHIN (Chinese)

**CHIN 101 - Introductory Chinese I (COM) [SGR #4] Credits: 4**
An opportunity to develop skills in everyday spoken Chinese. Emphasis will be on correct pronunciation, listening skills and fluency. Notes: Course meets SGR #4.

**CHIN 102 - Introductory Chinese II (COM) [SGR #4] Credits: 4**
A continuation of CHIN 101, except that 200 new Chinese characters will be introduced. Prerequisites: CHIN 101. Notes: Course meets SGR #4.

**CHIN 201 - Intermediate Chinese I (COM) Credits: 3**
A review of basic sentence patterns and a continued development of speaking, listening, reading and writing skills. 200-300 more characters will be introduced. Prerequisites: CHIN 102.

**CHIN 202 - Intermediate Chinese II (COM) Credits: 3**
A continuation of CHIN 201. 200-300 more characters will be introduced. Prerequisites: CHIN 201.

## CHRD (Counseling & Human Resource Development)

**CHRD 301 - Introduction to Rehabilitation Credits: 3**
The purpose of this course is to provide introductory level information regarding the counseling profession. Students will be exposed to the history, traditions, methods, and purposes of professional counseling, as well as the legal and ethical requirements that apply to clinical practice. The course will provide overview of the counseling field and provide students with a basis for development of a beginning professional identity.

**CHRD 351 - Medical and Vocational Case Management (COM) Credits: 3**
The purpose of this course is to provide students with experience in the day to day requirements and skills needed to manage casework and provide services for consumers in actual human services agencies.

**CHRD 352 - Counseling Special Populations Credits: 3**
This course will familiarize students with the history, needs, and cultural characteristics of consumers of counseling services that have disabilities. Ethnic and religious aspects will be considered as they relate to professional counseling.

**CHRD 353 - Ethics and the Helping Professions Credits: 3**
The purpose of this course is to provide ethical and legal standards as related to critical professional issues. The relationship and integration of values for the counselor's role in practice, training, and consultation will be explored.

**CHRD 451 - Individual and Group Counseling Credits: 3**
This course will introduce students to fundamental perspectives on professional counseling. Change processes and strategies will be examined from differing viewpoints. Students will be familiarized with group dynamics, structure, and power.

**CHRD 452 - Addictions Rehabilitation Credits: 3**
The purpose of this course is to introduce students to practice and policy aspects of addictions counseling. From a strengths perspective, biological, psychological, social, and spiritual factors will be considered as they relate to substance abuse issues.

**CHRD 453 - Family Therapy Credits: 3**
Family structure, systems, and communication will be examined. Perspectives on family dynamics and therapeutic change will be explored.

**CHRD 471-571 - Gerontology Issues in Counseling Credits: 3**
This course is designed to familiarize helping professionals with psychological aspects of the aging process. Students will gain skills in establishing rapport and interacting in a professional, caring manner with older adults and learn about appropriate resources and techniques to assist older clients.

**CHRD 475 - Motivational Interviewing and Wellness Counseling Credits: 3**
Students will demonstrate methods to facilitate behavior change and enhance wellness for diverse individuals and groups by using Motivational Interviewing and Cognitive Behavioral Therapy. In addition, counseling, coaching, and educational interventions will be explored as part of the change process. Signs and symptoms of mental health states along with verbal and nonverbal communication strategies will also be addressed.

**CHRD 485-585 - Careers in Counseling and Student Affairs Credits: 3**
This course is designed for students who are considering a career in counseling or student affairs. Students will be required to demonstrate an understanding of the various facets of the profession through a variety of individual and small group activities.

**CHRD 492 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**CHRD 601 - Introduction to Professional Issues & Ethics Credits: 1**

**CHRD 602 - Research and Evaluation in Counseling and Human Development Credits: 3**

**CHRD 610 - Developmental Issues in Counseling Credits: 3**

**CHRD 661 - Theories of Counseling Credits: 3**

**CHRD 690 - Seminar (COM) Credits: 1-3**

**CHRD 691 - Independent Study (COM) Credits: 1-3**

**CHRD 692 - Topics (COM) Credits: 1-3**

**CHRD 693 - Workshop (COM) Credits: 1-3**

**CHRD 701 - Professional Issues & Ethics II Credits: 1**

**CHRD 702 - Advanced Human Sexuality Credits: 3**

**CHRD 706 - Introduction to Play Therapy: Theory and Techniques Credits: 2**

**CHRD 707 - Advanced Play Therapy and Techniques Credits: 2**

**CHRD 708 - Play Therapy: Filial and Family Credits: 1**

**CHRD 709 - Applications of Play Therapy Credits: 2**

**CHRD 710 - Clinical Experiences in Play Therapy I Credits: 1**

**CHRD 711 - Clinical Experiences in Play Therapy II Credits: 1**

**CHRD 713 - Administration and Management of Mental Health Organizations Credits: 3**

**CHRD 716 - Human Resource Management in Business and Industry Credits: 3**

**CHRD 721 - School Counseling Credits: 3**

**CHRD 722 - Administration and Management of School Counseling Programs Credits: 3**

**CHRD 723 - Counseling the Family Credits: 3**

**CHRD 725 - Couples and Advanced Family Counseling Credits: 3**

**CHRD 725 - Couples and Advanced Family Counseling Credits: 3**

**CHRD 728 - Child and Adolescent Counseling Credits: 3**

**CHRD 731 - Multicultural Counseling and Human Relations Credits: 3**

**CHRD 736 - Appraisal of the Individual Credits: 3**

**CHRD 741 - Crisis Counseling Credits: 3**

**CHRD 742 - Career Counseling and Planning Credits: 3**

**CHRD 751 - Overview of Rehabilitation & Mental Health Counseling Credits: 3**

**CHRD 752 - Medical and Psychological Aspects of Disability Credits: 3**

**CHRD 753 - Case Management Principles and Plan Development Credits: 3**

**CHRD 755 - Clinical Diagnosis and Treatment Planning Credits: 4**

**CHRD 756 - Counseling the Addictive Client Credits: 3**

**CHRD 757 - Case Consultation and Supervision Credits: 3**

**CHRD 766 - Group Counseling Credits: 3**

**CHRD 770 - Student Development: Theory and Practice Credits: 3**

**CHRD 771 - Student Personnel Services Credits: 3**

**CHRD 772 - Administration and Leadership in Student Affairs Credits: 3**

**CHRD 773 - Current Issues in Academic Advising and Student Affairs Credits: 3**

**CHRD 785 - Pre-Practicum Credits: 3**

**CHRD 786 - Counseling Practicum Credits: 3-5**

**CHRD 788 - Research Problems in Counseling and Guidance Credits: 1-3**

**CHRD 791 - Independent Study (COM) Credits: 1-3**

**CHRD 794 - Internship (COM) Credits: 1-6**

**CHRD 798 - Thesis (COM) Credits: 1-6**

## CIM (Concrete Industry Management)

**CIM 101 - Introduction to Concrete Industry Management Credits: 2**
Introduction to the concrete industry, its history, job functions and professional organizations. Covers contemporary practices in precast, ready mix, and related industry sectors.

**CIM 125 - Plans and Specifications Credits: 1**
Introduction to reading construction plans to gain an understanding pre-construction build specifications. Commercial, heavy construction, and residential plans are covered.

**CIM 210-210L - Fundamentals of Concrete: Properties and Testing and Lab Credits: 3, 1**
Concrete testing, admixtures, placing and finishing. Effects of concrete-making processes on properties of fresh and hardened concrete materials. Course and lab includes preparatory for ACI Field Technician Certification exam. Lab to accompany CIM 210. Prerequisites: CHEM 106-106L and CIM 125. Corequisites: CIM 210L-210.

**CIM 216 - Concrete Methods and Materials Credits: 3**
Methods of concrete production, placement, and finishing. Field applications including foundations, pavements, structural elements. Overview of precast manufacturing processes including continuous and discrete systems; ASTM concrete material properties, specifications and testing are covered. Prerequisites: CIM 101.

**CIM 230 - Concrete Construction Systems Credits: 3**
In-depth examination of how the concrete construction industry functions. Building codes, permits and standards; contracts and competitive bidding; quality assurance, customer relations, and regional markets. Prerequisites: CIM 216 and CM 216.

**CIM 310 - Management of Concrete Facilities Credits: 3**
Overview of the manufacturing process common to all concrete production facilities. Emphasis on the first-line supervisor and/or plant manager role. Ready mix, masonry, precast, prestress, and concrete pipe manufacturing covered. Prerequisites: CIM 230.

**CIM 350 - Concrete Applications and Estimating Credits: 3**
Uses of concrete in construction of buildings, pavement, and other facilities. Site plans, formwork selection and design, material performance, and project requirements are used to develop the cost estimate and delivery schedule. Prerequisites: CIM 216.

**CIM 370 - Concrete Production and Strategy Credits: 3**
Managing concrete production systems in the ready mix and precast industry sectors. Concrete manufacturing facility operation, production equipment systems, delivery scheduling, and managing the concrete product supply chain. Prerequisites: CIM 230.

**CIM 440-440L - Advanced Concrete Materials and Lab Credits: 3, 1**
Concrete mix designs and procedures using ASTM and ACI standards. Material properties, admixture differences and behaviors, testing and analysis, and quality control of concrete products will be covered. Lab to accompany CIM 440. Prerequisites: CIM 370. Corequisites: CIM 440L-440.

**CIM 450 - Concrete Restoration and Repair Credits: 3**
Overview of the causes of deterioration and failure in fresh and hardened concrete. Identification of damage patterns and methods to control problems in concrete. Repair materials and methods to strengthen and restore concrete structures. Prerequisites: Senior standing or instructor approval.

**CIM 471 - Capstone Experience Credits: 3**
This course is an in-depth study of an industry-based problem to demonstrate technical and professional competence. Results are presented in a seminar-style formal review in collaboration with industry stakeholders. Prerequisites: Senior standing or instructor approval.

**CIM 494 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

## CJUS (Criminal Justice)

**CJUS 201 - Introduction to Criminal Justice (COM) [SGR #3] Credits: 3**
Overviews the criminal justice institutions involved in the operations of criminal law including the police, the attorney, the bail system, the trial, the guilty plea, sentencing, corrections and an analysis of criminal law in terms of why certain kinds of conduct are criminal in our society. Notes: Course meets SGR #3.

**CJUS 203 - Policing in a Free Society (COM) Credits: 3**
Presents the role of law enforcement within the criminal justice system, including law enforcement organizations and functions of separate operational units. Also examines the role of the police in a democratic society, covering concepts such as police services, crime deterrence, discretion and enforcement policies.

**CJUS 330 - Civil Rights and Liberties Credits: 3**
Individual First Amendment guarantees, constitutional rights of the accused in the criminal process and equal protection of the law as interpreted through U.S. Supreme Court decisions. Cross-Listed: POLS 330.

**CJUS 334 - Criminal Investigation (COM) Credits: 3**
A study of the fundamental principles of a criminal investigation subsequent to the initial activities of the first investigator at the scene. The intent of this course is to acquaint the student with those investigative actions which are most applicable to all types of investigations.

**CJUS 338 - Constitutional Law: Civil Rights and Liberties Credits: 3**
Explores the U.S. Supreme Court's institutional and political role in deciding constitutional issues regarding individual First Amendment guarantees, Second Amendment gun rights, criminal protections, and Fourteenth Amendment due process and equal protection. Cross-Listed: POLS 338.

**CJUS 412 - Criminal Prosecution and Defense (COM) Credits: 3**
Presents a behavioral and legal analysis of criminal case concepts, such as initial appearance, bail, preliminary hearing, grand jury, arraignment, suppression hearings, trial and sentencing, emphasizing bail reform, plea bargaining, screening, diversion, speedy trial, insanity defense, discovery, and the role of the defense attorney, prosecutor, and judge. The court system is examined as a social institution of human actors, exercising discretion within the boundaries of the law.

**CJUS 416-516 - Drugs and Society Credits: 3**
The course will examine explanations of drug use and the social construction of drug policies. Students will discuss the methods used to study patterns of drug use and theories of drug abuse and take an in-depth look at the histories, pharmacologies, and patterns associated with the most popular drugs. Students will study the social control of drugs, the connections between drugs and crime, and the causes and consequences of modern U.S. international drug policies. Cross-Listed: SOC 416-516.

**CJUS 431 - Criminal Law (COM) Credits: 3**
Examines the substantive criminal law, exploring the larger issues concerning the relationship of the individual to the state through analyzing such topics as the nature of criminal liability and the functions and justifications for criminal punishment, legal limitations upon criminalization, and the general principles of criminal liability, such as the "Act" and "State of Mind" requirements, specific offenses against persons and property, the law of attempt, the law of complexity, and conspiracy.

**CJUS 436 - Juvenile Justice (COM) Credits: 3**
Examines the separate system created in our society to handle juvenile justice, tracing the historical and philosophical development of the juvenile justice system and inspecting the various stages of the juvenile justice process as well as critical issues currently facing the system.

**CJUS 491-591 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**CJUS 492-592 - Topics (COM) Credits: 3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

## CM (Construction Management)

**CM 101 - Introduction to Construction Credits: 1**
Overview the construction industry and its key divisions: residential, commercial, heavy-highway-utilities. Professional conduct, technology, and contemporary issues are covered.

**CM 124 - Construction Graphics Credits: 3**
Introduction to graphic communications used in construction including civil, architectural, structural, mechanical and electrical drawings, plans, and schematics; creating and editing plans; symbols, terminology, and layout. Basic drawing at the board through overview of building modeling is covered.

**CM 130 - Management Tools and Analysis Credits: 3**
Introduction to common tools used by managers to convey information in the decision making process. Data organization and analysis using spreadsheets, databases and other relevant tools to produce effective communications.

**CM 210-210L - Construction Surveying and Lab Credits: 3**
The study of construction surveying and layout including topographic surveys and mapping. Land and construction surveys, principles of curve and quantity calculations and other advanced topics in surveying. Prerequisites: GE 241. Corequisites: CM 210L-210.

**CM 216 - Construction Methods and Materials Credits: 3**
An introduction to building materials and construction methods. Common construction methods are introduced and building design details are explored; material applications, innovations, structural and non-structural building components are covered. Prerequisites: MATH 103 or MATH 114.

**CM 216L - Construction Methods and Materials Lab Credits: 1**
Lab to accompany CM 216.

**CM 230 - Applied Construction Planning Credits: 3**
Introduction to construction applications including interpreting drawings, building specifications and other documents to construct, renovate, or remove a structure.

**CM 232 - Cost Estimating Credits: 3**
The study of the basic concepts of construction plan, specification and blueprint reading by requiring the student to do actual quantity takeoff using both traditional hand methods and computer enhanced procedures. Prerequisites: CM 216 or CEE 216-216L or consent.

**CM 235 - Mechanical, Electrical, Plumbing Plans and Specifications Credits: 3**
Building systems including HVAC, electrical controls, fire protection, and piping will be covered from pre-construction planning phase. Building information modeling and traditional blueprint reading will provide an understanding of construction project phases.

**CM 250 - Construction Project Management I Credits: 2**
Application of project management techniques. The life cycle of a construction project are covered including preconstruction feasibility, documentation, compliance, permits, and close out.

**CM 292 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**CM 320-320L - Construction Soil Mechanics and Lab Credits: 3**
Introduces updated information developed in research and practices for application to construction operations. An overview of the nature of soil materials and their engineering properties is coupled with simple, direct examples of analysis to show how common construction methods and operation may be controlled or influenced. Prerequisites: GE 241. Corequisites: CM 320L-CM 320.

**CM 332 - Building Construction Methods and Systems Credits: 3**
The study of the structural and finish systems that make up a building and the related methods of implementation. Prerequisites: CM 216 and junior standing or instructor approval.

**CM 333 - Mechanical, Electrical, Plumbing Systems Credits: 3**
The study of mechanical, electrical, plumbing, and fire protection systems, design considerations, and system components in a modern building.

**CM 352 - Advanced Estimating with BIM Credits: 3**
Application of methods and technologies to determine the value of construction projects. Prerequisites: CM 232 or instructor permission.

**CM 353 - Construction Structures Credits: 3**
The study of the structural design process in the built environment. Prerequisites: GE 241.

**CM 353L - Construction Structures Lab Credits: 0**

**CM 360 - Building Design and Evaluation Concepts Credits: 3**
The study of the design of buildings and the use of contemporary concepts to regulate and influence the design process. Prerequisites: CM 124 and CM 216.

**CM 374 - Heavy Construction Methods and Systems Credits: 3**
The study of the systems involved in heavy construction and the equipment and methods required to implement them. Prerequisites: CM 320-320L or CEE 340-340L.

**CM 400-500 - Risk Management and Construction Safety Credits: 3**
Construction safety and health and effective management of risk.

**CM 410 - Construction Project Management and Supervision Credits: 3**
The study of the ethical, procedural, and supervisory concepts involved with the execution of a construction project. Prerequisites: CM 443-553.

**CM 420 - Construction Student Competitions Credits: 1-3**
Participation and related preparation for student competitions hosted by regional, national, and international industry organizations. Prerequisites: Instructor approval.

**CM 421 - Commercial Building Inspection and Plan Checking Credits: 3**
Preparation to become a certified building inspector or building plan checker/reviewer by studying the prevailing building code. Prerequisites: CM 216.

**CM 443-553 - Construction Planning and Scheduling Credits: 3**
Planning and scheduling construction projects. Both manual methods and computer programs will be used to schedule activities, control cost and manage resources. Prerequisites: CM 232 or instructor permission.

**CM 452 - Heavy and Highway Estimating Credits: 3**
The study of the procedures and methods required to determine the value of heavy, highway, and site development projects with associated bidding procedures. Prerequisites: CM 374 and senior standing or written consent.

**CM 455-555 - Residential Construction Credits: 3**
The study of the residential construction process including design, documentation, and construction.

**CM 460-560 - Sustainable Building Systems Concepts and Analysis Credits: 3**
The analysis of energy efficient and environmentally responsible building design and construction. Material selection, energy and climate analysis, and practical applications of new technology will be covered.

**CM 471 - Capstone Experience Credits: 2**
This course integrates project management theory and application in a team-based learning environment. Contemporary industry topics, development and implementation of projects, legal and ethical implications, project management processes, and management issues will be addressed. Prerequisites: CM 352 and senior standing.

**CM 473-573 - Construction Law and Contracts Credits: 3**
The study of the legal rights and liabilities for the construction manager and design professionals. Topics include obligations and remedies, bond requirements, dispute resolution, contract administration, and risk mitigation. Prerequisites: Senior standing or instructor approval.

**CM 485-485L/585-585L - Site Development and Feasibility Analysis and Lab Credits: 3**
Tools and techniques used to evaluate the cost of new site development; risk assessment and market feasibility analysis for properties to be acquired for economic development. Corequisites: CM 485L-485.

**CM 490 - Seminar (COM) Credits: 1**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students.

**CM 491-591 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**CM 492 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**CM 494 - Internship (COM) Credits: 1-3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than in the case with field experience courses.

**CM 497 - Cooperative Education (COM) Credits: 1-3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course. Prerequisites: Sophomore class standing.

## CMST (Communication Studies)

**CMST 101 - Fundamentals of Speech (COM) [SGR #2] Credits: 3**
Introduces the study of speech fundamentals and critical thinking through frequent public speaking practice, including setting, purpose, audience, and subject. Notes: Course meets SGR #2.

**CMST 201 - Interpersonal Communication (COM) [SGR #3] Credits: 3**
Studies modes of interpersonal communication through readings, and experiential discussions of the role of interpersonal communications in common situations within our society. Notes: Course meets SGR #3.

**CMST 205 - Communication Studies Credits: 3**
An overview of the communication discipline, theory, and practice. Prerequisites: Advanced Placement in Speech or consent.

**CMST 215 - Public Speaking (COM) [SGR #2] Credits: 3**
Sharpens students skills in platform speaking events, covering the preparation for and delivery of competitive speaking formats including oral interpretation, persuasive, expository, impromptu, extemporaneous, and after dinner speaking. Notes: Course meets SGR #2.

**CMST 222 - Argumentation and Debate (COM) [SGR #2] Credits: 3**
Explores argument as a communication activity, construction sound arguments in a variety of venues and analyzing the contribution of argument to public dialogue on contemporary issues. Notes: Course meets SGR #2.

**CMST 281 - Speech and Debate Activities (COM) Credits: 1-4**
Initiates active participation in competitive public speaking, including debate, oral interpretation, and non-competitive public performances.

**CMST 305 - Communication Research (COM) Credits: 3**
An exploration of basic theoretical and practical principles of quantitative and qualitative research methods in the study of communication. Students learn to form research questions; work with resources such as academic journals, popular culture, and the internet; use recognized research formats and write research proposals.

**CMST 311 - Business and Professional Communication (COM) Credits: 3**
Emphasizes principles and practical application of effective professional communication behaviors and rhetorical sensitivity within professional, business, and organizational contexts.

**CMST 320 - Communication in Interviewing (COM) Credits: 3**
Provides an in-depth study of the interviewing process, including information gathering, persuasion, appraisal, and employment interviews, emphasizes theoretical knowledge from the perspectives of both the interviewer and interviewee, as well as skill development in interviewing techniques.

**CMST 401-501 - Advanced Interpersonal Communication (COM) Credits: 3**
Advanced study of contemporary issues that have significant impact on interpersonal relationships. Students develop an understanding of the current communication research, theory, and social practices associated with these relational issues. Prerequisites: CMST 201.

**CMST 405 - Theories of Communication (COM) Credits: 3**
Examines communication theories and philosophies, emphasizing clarification through theory of daily communication processes, and relating theory to traditional and developing research methods.

**CMST 410-510 - Organizational Communication (COM) Credits: 3**
Explores communication processes in organizational contexts, theories of leadership, decision making and conflict, the application of principles that facilitate communication in organizations, and other selected topics.

**CMST 415-515 - Communication and Gender (COM) Credits: 3**
A study of gender theories as well as gendered communication practices within the contexts of interpersonal and organizational relationships and social and cultural forces. Cross-Listed: WMST 415.

**CMST 416-516 - Rhetorical Criticism (COM) Credits: 3**
Evaluates American speakers from colonial to contemporary times.

**CMST 422 - Persuasion (COM) Credits: 3**
Develops conceptual understanding of persuasion dynamics by analyzing theories, perspectives, and research findings while improving skills in critically analyzing the role of persuasive message in society and culture.

**CMST 434 - Small Group Communication (COM) Credits: 3**
Explores prominent concepts and theories of human small group interaction, cultivating critical assessments of communication strategies in task, social, and therapeutic groups.

**CMST 440-540 - Health Communication (COM) Credits: 3**
This course will examine the contexts and processes of communication about health, focusing on how professionals, patients, and practitioners interact in ways that constitute and influence health and medicine.

**CMST 441-541 - Health Communication Campaigns Credits: 3**
Creation of evidence-based communication interventions to address the health needs of communities. The course requires students to identify contemporary health needs, select appropriate forms of health communication intervention, develop intervention messages and create a plan for assessing effectiveness of interventions. Students will also learn how to collect, analyze and interpret data using techniques such as surveying, interviewing, and moderating focus groups.

**CMST 465 - Capstone: Communication Studies Credits: 3**
An in-depth, cumulative study of the theory, research and methods in the Communication discipline. Incorporates intensive reflection, research and writing components to provide the student with an opportunity to demonstrate synthesis and mastery of discipline content, as well as the principles and practices of portfolio and resume building.

**CMST 470 - Intercultural Communication (COM) Credits: 3**
A study of theoretical dimensions of intercultural communication as well as specific characteristics of intercultural study. Emphasis is placed on complex, mindful, creative and invitational communication, which welcomes diversity and its richness. Cross-Listed: GEOG 470.

**CMST 476 - 7-12 Speech Methods (COM) Credits: 3**
Problems of the speech teacher. Curriculum, instructional materials, and methods.

**CMST 482-582 - Travel Studies Credits: 1-5**
This travel study course is designed to provide extra-mural educational opportunities, approved and directed by a faculty member in Communication Studies Theatre. It may be in cooperation with faculty and administrators of other institutions. Students will be involved in hands-on activities and design educational activities for presentation at selected locations as well as SDSU. Includes pre-travel orientation, post travel self-evaluation, and a written report.

**CMST 491-591 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**CMST 492-592 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**CMST 494 - Internship (COM) Credits: 1-16**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**CMST 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4**
Includes senior project and capstone experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**CMST 700 - Instructional Communication Credits: 3**

**CMST 702 - Theories of Communication and Media Credits: 3**

**CMST 720 - Professional Communication Credits: 3**

**CMST 787 - Research in Communication and Media Credits: 3**

**CMST 788 - Master's Research Problems/Projects (COM) Credits: 1-6**

**CMST 791 - Independent Study (COM) Credits: 1-6**

**CMST 792 - Topics (COM) Credits: 1-3**

**CMST 795 - Practicum (COM) Credits: 3**

**CMST 798 - Thesis (COM) Credits: 1-7**

## CS (Consumer Science)

**CS 230 - Consumer Behavior Credits: 3**
Understanding cultural, economic, social, psychological conditions, and media environments that influence the consumer purchase process in the marketplace. Study of diverse types of consumer subcultures. Cross-Listed: CA 230.

**CS 282 - Customer Service Credits: 3**
Examination and application of customer service as a tool for business to develop positive interactions with current and potential customers. Discussion of customer service as an integral tool in customer relationship management. Cross-Listed: FSRM 282.

**CS 377 - Professional Documents Credits: 1**
Organization and preparation of professional documents.

**CS 381 - Professional Behavior at Work Credits: 3**
Social skills and professional conduct in a global workplace. Emphasis will be on interpersonal communication and cross-cultural interactions appropriate in the work environment. Cross-Listed: FSRM 381.

**CS 430 - Consumer Decision Making Credits: 3**
Study of theories and principles in judgment and decision making and behavioral economics. Barriers and strategies to improve consumer judgment and decision-making will be addressed including heuristics and biases, role of emotion and social forces. Cross-Listed: CA 430.

**CS 480 - Travel Studies Credits: 1-5**
This travel study course is designed to provide extra-mural educational experiences across the Department of Consumer Sciences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators at other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report – the scope of which is determined by the instructor(s).

**CS 492 - Topics (COM) Credits: 3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

## CSC (Computer Science)

**CSC 100L - Introduction to Computer Science Lab Credits: 1**
An introduction to the study of computer science using a hands-on robotics approach in a lab setting. Corequisites: GE 101.

**CSC 105 - Introduction to Computers (COM) Credits: 3**
Overview of computer applications with emphasis on word processing, spreadsheets, database, presentation tools and internet-based applications.

**CSC 130 - Visual Basic Programming (COM) Credits: 3**
Fundamentals of programming using Visual Basic. Focus on problem solving, visual design, and programming concepts. Topics include sequence, selection, repetition, procedures, and functions.

**CSC 150 - Computer Science I (COM) Credits: 3**
An introduction to computer programming. Focus on problem solving, algorithm development, design, and programming concepts. Topics include sequence, selection, repetition, functions, and arrays.

**CSC 205 - Advanced Computer Applications (COM) Credits: 3**
This course covers advanced topics in word processing and spreadsheet applications such as macros, advanced functions, graphics, merging, linking, and transferring data. The course emphasizes the efficient use of software packages. Operating systems/environment topics are also addressed.

**CSC 244-244L - Digital Logic and Lab Credits: 3, 1**
The fundamental concepts of analysis and design of digital circuits including combinational and sequential logic using hardware and software tools. Laboratory topics which enhance the concepts of the lecture course. Prerequisites: "C" or better in CSC 150. Corequisites: CSC 244L-244 and CSC 314.

**CSC 250 - Computer Science II (COM) Credits: 3**
Problem solving, algorithm design, standards of program style, debugging and testing. Extension of the control structures and data structures of the high-level language introduced in CSC 150. Elementary data structures and basic algorithms that include sorting and searching. Topics include more advanced treatment of functions, data types such as arrays and structures, and files.

**CSC 291 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**CSC 292 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**CSC 300 - Data Structures (COM) Credits: 3**
A systematic study of data structures and the accompanying algorithms used in computing problems; structure and use of storage; methods of representing data; techniques for implementing data structures; linear lists; stacks; queue; trees and tree traversal; linked lists; and other structures. Prerequisites: CSC 250.

**CSC 303 - Ethical and Security Issues in Computing Credits: 3**
This course will cover the code of ethics adopted by the major computer science societies and the consequences of violating the code. Laws affecting computer and information processing as well as the varied interpretations of those laws will be covered. It also provides students with a fundamental knowledge of computer security including security terminology, information assurance, software and hardware vulnerabilities, and encryption.

**CSC 314 - Assembly Language (COM) Credits: 3**
A thorough introduction to assembly language programming and processor architecture. A study of low-level programming techniques, and the layout of a typical computer. The student will gain insight into the memory layout, registers run-time stack, and global data segment of a running program. Prerequisites: CSC 215 or CSC 250.

**CSC 317 - Computer Organization and Architecture (COM) Credits: 3**
A course in computer organization with emphasis on the hierarchical structure of computer systems. Covers such topics as: components of computer systems and their configuration, design of basic digital circuits, the microprogram level, the conventional machine level, the operating system level, assembly language, address modes, interpreters/translators, computer arithmetic. Prerequisites: "C" or better in CSC 314.

**CSC 319 - Parallel Computing (COM) Credits: 3**
This course focuses on concepts and issues related to the design, analysis, and implementation of parallel algorithms. Examples of areas and environments discussed and used: shared-memory computing, distributed-memory computing, cluster computing, high-performance computing and GPU computing. Prerequisites: CSC 250.

**CSC 325 - Management Information Systems (COM) Credits: 3**
Introduction to the application of information technology in organizations, roles of managers and staff professionals in developing and using information systems with current and future technology. Cross-Listed: MGMT 325.

**CSC 346 - Object Oriented Programming Credits: 3**
The study of object oriented methodologies using a modern language such as C++ or Java. Advanced data structures, I/O and file management will be implemented using polymorphism, inheritance, overloading and encapsulation. Prerequisites: "C" or better in CSC 300.

**CSC 354 - Introduction to Systems Programming Credits: 3**
The study of macros, subroutines, subroutine linkage, conditional assembly, input-output, interrupt processing, assemblers, loaders and linkers. Prerequisites: "C" or better in CSC 346.

**CSC 392 - Topics (COM) Credits: 1-3**

**CSC 422-522 - GUI Programming Credits: 3**
This course is event-driven graphical user interface (GUI) programming will cover topics such as C++ programming for Windows.

**CSC 445 - Introduction to Theory of Computation (COM) Credits: 3**
Introduction to a series of models for computation and their relationship to formal languages that are useful in the definition of programming languages along with a look at the theoretical limits of computers. Topics include finite and pushdown automata, Turing machines, grammars, decidability and computational complexity. Prerequisites: (CSC 215, CSC 250, CSC 251) and (CSC 255 or MATH 316).

**CSC 446 - Compiler Construction Credits: 3**
Structure of algorithmic, conversational, list processing and string manipulation languages. Concepts and facilities of programming languages; structure of compilers, introduction to formal languages and parsing. Prerequisites: CSC 300 and CSC 445.

**CSC 447-547 - Artificial Intelligence (COM) Credits: 3**
Concepts in Artificial intelligence: programming in languages such as Prolog or LISP; knowledge representation; search algorithms. Prerequisites: CSC 215 or CSC 250 or CSC 255.

**CSC 450 - Game Programming I Credits: 3**
This course teaches the fundamental concepts of video game programming. Students will explore different development environments, such as: gaming libraries and gaming engines. Students will be exposed to different development programming languages, such as: C, C++ and C#. Students will develop a basic understanding of how to design and implement video games by creating a simple video game as part of the course. Prerequisites: "C" or better in CSC 346.

**CSC 452 - Game Programming II (COM) Credits: 3**
This course focuses on team-based video game development. Each team of students will plan and implement a semester long video game programming project. The students will be required to write regular reports and give regular in-classroom presentations on the status of their projects.

**CSC 456 - Operating Systems (COM) Credits: 3**
A study of the functions and structures associated with operating systems with respect to process management, memory management, auxiliary storage management, and processor management. Topics include concurrent and distributed computing, deadlock, real and virtual memory, job and processor scheduling, security and protection. Prerequisites: (CSC 300 and CSC 314) or CSC 324.

**CSC 461 - Programming Languages (COM) Credits: 3**
This course consists of two parts. The first part introduces how programming languages are designed, including an introduction to the concepts of parsing and compiling. Issues related to implementation such as type checking, binding, and memory management are discussed. Secondly, the course will survey the spectrum of programming languages paradigms, including traditional imperative, object oriented, functional, and logic languages. Prerequisites: CSC 255 or CSC 300 or CSC 315.

**CSC 464 - Senior Design I (COM) Credits: 2**
This is a team-based project-design course. This course will focus on the design process and culminate with the faculty approval of design projects. Typical topics included are the development of a design document; identification of customer needs; development of specifications; consideration of alternate designs using a decision matrix; project management techniques; and legal, global, and ethical issues. Prerequisites: Senior class standing along with CSC 340 and CSC 484 or SE 306 with a "C" or better.

**CSC 465 - Senior Design II (COM) Credits: 2**
This course is a continuation of CSC 464. The student will complete the project approved in CSC 464. It will require that the students implement the design projects in a simulated industrial environment. Specific requirements may include detailed laboratory notebook, periodic written and oral progress reports, and a written and oral presentation of a final project report. Prerequisites: CSC 464.

**CSC 469-569 - Fundamentals of High-Performance Computing Credits: 3**
An introduction to high-performance computing (HPC) and its application to scientific research computing: accessing and using HPC clusters, task and process-based parallelism, shared and distributed memory, using hardware accelerators (e.g., graphics processing units), and other emerging topics. Cross-Listed: EE 469-569.

**CSC 470 - Software Engineering Credits: 3**
An introduction to the software engineering process, including lifecycle phases, problem analysis, specification, project estimation and resource estimations, design, implementation, testing/maintenance, and project management. In particular, software validation and verification as well as scheduling and schedule assessment techniques will be discussed. Prerequisites: CSC 300.

**CSC 474-574 - Computer Networks Credits: 3**
Analysis of current and future computer networks with emphasis on the OSI model. Local and wide area networks. TCP/IP, SNA, token ring, ethernet and other common networks will be covered. Protocol and interfaces within and across networks including the OSI layers, routers, bridges and gateway. Prerequisites: CSC 474: CSC 300; CSC 574: CSC 300 or CSC 600.

**CSC 481 - Systems Analysis (COM) Credits: 3**
Systems analysis covers concepts, skills, methodologies, techniques, tools and perspectives essential for systems analysts to successfully design information systems. Topics include requirements specifications, object-oriented analysis and design using the unified modeling language and project management. Prerequisites: CSC 300 or CSC 350.

**CSC 484 - Database Management Systems (COM) Credits: 3**
The study of formalized database design. This course will focus on relational model design and the use of SQL. Students will use a modern relational database to implement designs and learn the basics of data management. Prerequisites: CSC 300 or CSC 315.

**CSC 485 - Software Engineering II Credits: 3**
The course is designed to illustrate the principles discussed in CSC 470. The students will be team leaders on a project that involves the system analysis, design, integration, testing, and maintenance of a large, real world software system. The students will also document the process of the real world software development. Prerequisites: CSC 470.

**CSC 487-587 - Network Security Credits: 3**
An introduction to cryptography and its application to network and operating system security: security threats, applications of cryptography, secret key and public key cryptographic algorithms, hash functions, basic number theory, authentication, and security for electronic mail. Prerequisites: "C" or better in CSC 300.

**CSC 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**CSC 492-592 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**CSC 494 - Internship (COM) Credits: 1-8**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**CSC 498 - Undergraduate Research/Scholarship (COM) Credits: 1-6**
Includes Senior Project and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**CSC 600 - Accelerated Computer Science Fundamentals Credits: 3**

**CSC 630 - Principles of Data Base System Design Credits: 3**

**CSC 705 - Design and Analysis of Computer Algorithms (COM) Credits: 3**

**CSC 710 - Structure and Design of Programming Languages (COM) Credits: 3**

**CSC 720 - Theory of Computation (COM) Credits: 3**

**CSC 740 - Management Information Systems Credits: 3**

**CSC 750 - Recent Advances in Parallel Process Credits: 3**

**CSC 770 - Software Engineering Management Credits: 3**

**CSC 788 - Master's Research Problems/Project (COM) Credits: 1-3**

**CSC 790 - Seminar (COM) Credits: 1-3**

**CSC 791 - Independent Study (COM) Credits: 1-5**

**CSC 792 - Topics (COM) Credits: 1-3**

**CSC 798 - Thesis (COM) Credits: 1-9**

## CSS (Computational Science & Statistics)

**CSS 890 - Seminar in Computational Science and Statistics (COM) Credits: 1**

**CSS 891 - Independent Study Computational Science and Statistics (COM) Credits: 1-3**

**CSS 898D - Dissertation PhD (COM) Credits: 1-36**

## CTE (Career & Technical Education)

**CTE 189 - Technical Specialty: Credits: 1-32**
(Name of technical program.) Granted to students who have: 1. successfully completed approved coursework related to a Technical Specialty from a vocational technical institute or school; 2. documentation of a chronological history of relevant occupational work experience leading to identifiable competencies completed in a Technical Specialty approved by granting institution; 3. successfully passed an occupational competency evaluation, such as: National Occupational Competency Testing Institute (NOCTI) exam for a specific Technical Specialty; and 4. validated military experiences that are related to a technical specialty.

**CTE 492 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

## DANC (Dance)

**DANC 130 - Dance Fundamentals Credits: 1**
Basic skills course required of all physical education and public recreation majors. Includes analysis, skill development, and leadership of round, folk, square and social dances, traditional and contemporary.

**DANC 131 - Movement 1 Credits: 2**
Movement and dance theory as it relates to the body as an instrument of expression and communication.

**DANC 135 - Dance Activities Credits: 1**
Credit earned by active participation in academic sponsored dance performance activities. Prerequisites: Consent. Notes: May be repeated for up to 8 credits.

**DANC 230 - Technique 1 Credits: 2**
Technical dance training in basic structures of Classical Ballet and Jazz.

**DANC 231 - Technique 2 Credits: 2**
Technical dance training in basic structures of Modern and Tap dance.

**DANC 240 - Multicultural Dance Activities Credits: 1**
Folk dances from around the world, including cultural background, costumes, skill differences for elementary, middle and high school, or adults.

**DANC 241-241L - Creative Movement for Children and Lab Credits: 2**
Theory and laboratory class which studies how creative movement activities meet special needs of children. Emphasis is on a problem-solving approach. Consideration is given to developmental stages of children, basic elements of dance, creative movement, games, rhythms and manipulatives, plus teaching methods, structuring and presenting lessons. Corequisites: DANC 241L-241.

**DANC 330 - Technique 3 Credits: 2**
Technical dance training in intermediate and advanced structures of Classical Ballet and Jazz. Prerequisites: DANC 230 or instructor consent.

**DANC 331 - Technique 4 Credits: 2**
Technical dance training in intermediate and advanced structures of Modern and Tap Dance. Prerequisites: DANC 231 or instructor consent.

**DANC 336 - Dance Activities Credits: 1**
Credit earned by active participation in academic sponsored dance performance activities. May be repeated for a total of 8 credits.

**DANC 420 - Techniques of Teaching Dance Credits: 2**
Theory and practice of teaching the various dance forms: social, square, folk, modern, rhythmic games, creative dance for children. Experience in lesson planning. Unit and general curriculum requirements K-12. Prerequisites: DANC 130 and DANC 240.

**DANC 430 - Composition and Choreography Credits: 2**
Methods of creating dance choreography. Prerequisites: DANC 230 and DANC 231, or DANC 330 and DANC 331, or instructor consent.

**DANC 431 - Dance for the Musical Theatre Credits: 2**
Dance exploration in many genres of dance for the musical theatre. Prerequisites: DANC 230 and DANC 231, or DANC 330 and DANC 331, or instructor consent.

**DANC 491 - Independent Study Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic. Prerequisites: Consent.

## DS (Dairy Science)

**DS 119 - First Year Seminar – Dairy and Food Science Credits: 2**
First-year seminar course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society. Notes: Fall only.

**DS 130-130L - Introduction to Dairy Science and Lab Credits: 3**
Essentials of successful dairy farm operation, production testing, feeding, and management of dairy herd. Composition of milk; testing of milk for milk fat, milk solids and quality; and an examination of nutritive value of dairy products. Corequisites: DS 130L-130. Notes: Fall and Spring.

**DS 202 - Dairy Products Judging Credits: 1**
Introduction to sensory analysis of dairy products. Notes: Fall.

**DS 231 - Dairy Foods Credits: 3**
Survey of the dairy processing industry. Principles of processing and manufacturing dairy foods including quality standards and nutritive quality. For non-dairy manufacturing majors only. Notes: Spring.

**DS 301-301L - Dairy Microbiology and Lab Credits: 4**
Microbiological aspects related to production and processing of milk for human use, including role of regulatory agencies, quality standards and HACCP principles. Prerequisites: MICR 231-231L or MICR 233-233L. Corequisites: DS 301L-301. Notes: Odd Spring.

**DS 311 - Dairy Cattle Judging Credits: 2**
Judging major breeds of dairy cattle. Developing logical decisions and defending through oral communication. Type classification. May include participation in regional dairy cattle or national collegiate cattle judging contests. Notes: Fall.

**DS 312-312L - Dairy Cattle Breeding and Evaluation and Lab Credits: 4**
Evaluation, selection, and breeding of dairy cattle based on pedigrees, genotypes, production records, type classification, and sire analysis. Discussion and practice of the fundamental aspects of evaluation based on records and type. Practice decision making and developing genetic management plans for individual cows and a dairy herd. Discussion of major dairy breeds including their predominant characteristics and specific aspects of breeding management. Discussion of reproductive technologies used to transfer and improve dairy cattle genetics. Corequisites: DS 312L-312. Notes: Spring.

**DS 314 - Dairy Farm Evaluation Credits: 1**
Examination of the performance and management of milking operations, feeding protocols, reproduction, herd health, facilities, heifer-raising, and financial records of dairy farms. Evaluations will include written reports and oral presentations on a herd's challenges and opportunities for optimization. Students may have opportunities to participate in regional or national Dairy Challenge competitions. Notes: Spring.

**DS 321-321L - Dairy Product Processing I and Lab Credits: 5**
Principles and practices of producing fluid/market milk, cultured products and cheese. Prerequisites: DS 130; and MICR 231-231L or MICR 233-233L. Corequisites: DS 321L-321. Notes: Odd Fall.

**DS 322-322L - Dairy Product Processing II and Lab Credits: 5**
Principles and practices of producing frozen dairy desserts, butter, concentrated milks, and dried milk products. Prerequisites: DS 130; and MICR 231-231L or MICR 233-233L. Corequisites: DS 322L-322. Notes: Even Spring.

**DS 400-400L/500-500L - Dairy Chemistry and Analysis and Lab Credits: 5**
An examination of the physical and chemical properties of milk constituents and their effects on processing, testing, and nutritive value of milk and its' products. The role of intentional or accidental additives including impacts, effects and significance. An examination of laboratory protocols utilized in compositional analysis of milk and milk derived products as they relate to procurement, process control and regulatory compliance. Prerequisites: DS 130; CHEM 106 or CHEM 112; CHEM 108 (or concurrent). Corequisites: DS 400L-400/500L-500. Notes: Fall.

**DS 401 - Advanced Dairy Products Judging Credits: 1-2**
Advanced sensory analysis of dairy products. Includes participation for alternate team members in the regional collegiate dairy products evaluation contest. Team members who participate in both the regional and national contests take course for 2 credits. Maximum of 3 credits. Prerequisites: DS 202. Notes: Spring.

**DS 413-413L/513-513L - Physiology of Lactation and Lab Credits: 4**
A study of the anatomical, biochemical and physiological factors in the mammary gland that regulate mammary development, milk synthesis and secretion, and impact milk quality and udder health. Machine milking settings and troubleshooting related to milking efficiency, animal handling in the milking parlor and milking procedures will be also covered. Corequisites: DS 413L-413/513L-513. Notes: Even Spring.

**DS 421-421L - Dairy Plant Management and Lab Credits: 4**
Discussion, tours, and hands-on activities related to personnel issues, operational planning, facilities design and upkeep, unit operations and controls, accounting and finance, quality, safety, inspections and audits as these areas relate to the overall operation of a dairy processing facility. Prerequisites: Junior standing. Corequisites: DS 421L-421. Notes: Even Fall.

**DS 442-542 - Dairy Product and Process Development Credits: 3**
Students will work in small groups to design and produce a prototype dairy product. The course will include standards of identity for dairy products, nutritional labeling requirements, least cost formulation, design of manufacturing processes and methods for planning product development. Prerequisites: DS 400-400L/500-500L. Notes: Odd Spring.

**DS 480-480L/580-580L - Dairy Farm Operations I and Lab Credits: 4**
The first course in a two-semester sequence course addressing dairy herd management practices. Dairy farm capital, budgets and credit; factors affecting economic returns of dairy farming; nutrition and feeding of lactating dairy cattle; and nutritional implications related to herd replacements. Prerequisites: (AS 218 or AS 219), DS 130-130L, and (ECON 201 or ECON 202) or Junior standing. Corequisites: DS 480L-480/580L-580. Notes: Odd Fall.

**DS 481-481L/581-581L - Dairy Farm Operations II and Lab Credits: 4**
The second semester of a two-semester sequence course addressing dairy herd management practices. Production testing and records interpretation; impacts of cropping systems and commodity markets; labor requirements and Human Resources implications; building and equipment requirements; animal health and reproduction; merchandising of cattle and milk; and factors affecting economic returns of dairy farming. Prerequisites: DS 130-130L, DS 480-480L/580-580L, and ECON 201 or ECON 202. Corequisites: DS 481L-481/581L-581. Notes: Even Spring.

**DS 490 - Seminar (COM) Credits: 1**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division undergraduate levels. Enrollment is generally limited to fewer than 20 students. Notes: Fall.

**DS 491 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Student complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meeting depending upon the requirements of the topic.

**DS 492 - Topics (COM) Credits: 1-4**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**DS 494 - Internship (COM) Credits: 3-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than in the case with field experience courses.

**DS 496 - Field Experience Credits: 3-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**DS 497 - Cooperative Education Credits: 3-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**DS 498 - Undergraduate Research/Scholarship Credits: 1-6**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**DS 711 - Ruminology Credits: 3**

**DS 722 - Advanced Dairy and Food Microbiology Credits: 3**

**DS 731 - Lab Techniques in Dairy Science Credits: 3**

**DS 790 - Seminar (COM) Credits: 1-3**

**DS 791 - Independent Study (COM) Credits: 1-4**

**DS 792 - Topics (COM) Credits: 1-4**

**DS 796 - Field Experience (COM) Credits: 1-3**

**DS 798 - Thesis (COM) Credits: 1-7**

**DS 898D - Dissertation-Ph.D. (COM) Credits: 1-12**

## DSCI (Decision Science)

**DSCI 424 - Operations Research (COM) Credits: 3**
This course looks at quantitative tools and methods used in the decision making process of business organizations. Linear programming, decision making under uncertainty, simulation, inventory models, and queuing models will be studied. Prerequisites: BADM 220 or STAT 281. Cross-Listed: BADM 424.

**DSCI 453-553 - Risk Management - Personal and Business Credits: 3**
Applications of risk modelling and evaluation skills to personal or business project management. Topics include risk initiation, identification, assessment, and response planning. Prerequisites: (ECON 301 or ECON 431) and (STAT 281 or STAT 381 or STAT 382). Cross-Listed: ECON 453-553.

**DSCI 490-590 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**DSCI 491-591 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**DSCI 492-592 - Topics (COM) Credits: 1-4**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**DSCI 494-594 - Internship (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**DSCI 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**DSCI 596 - Field Experience (COM) Credits: 1-3**

**DSCI 752 - Advanced Business Decision Science Credits: 3**

**DSCI 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**DSCI 792 - Topics (COM) Credits: 1-4**

**DSCI 793 - Workshop (COM) Credits: 1-3**

## DSGN (Design)

**DSGN 110 - Creative Thinking Credits: 3**
Develop problem-solving skills through the lens of creativity. A focus on exploring the habits that lead to greater creativity across diverse disciplines and professions.

**DSGN 121 - Design I 2D (COM) [SGR #4] Credits: 3**
Emphasizes the organization of visual elements and principles while exploring creative thought processes through art theory, concepts, material, and techniques. Cross-Listed: ART 121. Notes: Course meets SGR #4.

**DSGN 452 - Design Capstone Credits: 2**
This capstone studio presents students with an interdisciplinary exploration of a contemporary issue in art and design. The topic of each section, populated with upper-level undergraduate School of Design students, will be linked to the research and creative activity of a faculty lead. Students will draw on disciplinary practices and design foundations to complete a small-group project-based study.

**DSGN 491 - Independent Study (COM) Credits: 1-9**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**DSGN 492-592 - Topics (COM) Credits: 1-9**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**DSGN 494 - Internship (COM) Credits: 1-9**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than in the case with field experience courses.

**DSGN 496 - Field Experience (COM) Credits: 1-9**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**DSGN 691 - Independent Study (COM) Credits: 1-9**

**DSGN 692 - Topics (COM) Credits: 1-9**

## ECE (Early Childhood Education)

**ECE 150-150L - Early Experience and Lab Credits: 2**
Experimental-based introduction to professional contexts within early childhood education (ECE) and/or human development and family studies (HDFS). Students serve as volunteers in community-based human services and educational settings, shadowing professionals to better understand professional roles and opportunities. Corequisites: ECE 150L-150.

**ECE 196 - Field Experience (COM) Credits: 1**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**ECE 220 - Health, Safety and Nutrition of Young Children Credits: 2-3**
Important elements for planning, promoting and maintaining healthy and safe learning/care environments, understanding childhood illnesses and establishing healthy lifestyles, first aid, and care providers maintaining their own health. Maintaining safe relationships with others, including identifying and reporting abuse, neglect, and exploitation of children. Exploration of nutrients for life and feeding, food preparation and safety policies and guidelines, food allergies and intolerances, appropriate feeding practices. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**ECE 240 - Child Development I: Prenatal to 2 Credits: 3**
This course provides an in-depth study of child development from prenatal to age 2; in a developmentally appropriate context. Topics include typical and a-typical development and behaviors including: prenatal development, brain development, and domains of cognition, language, physical, social, and emotional development. In addition, developmental theory, early care and education, and responsive relationship-based education and care will be practiced and applied.

**ECE 241 - Child Development II: 3 to 8 Years Credits: 3**
This course provides an in-depth study of child development from age 3 to age 8; in a developmentally appropriate context. Topics include typical and a-typical development and behaviors including: prenatal development, brain development, and domains of cognition, language, physical, social, and emotional development. In addition, developmental theory, early care and education, and responsive relationship-based education and care will be practiced and applied.

**ECE 296 - Field Experience (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**ECE 320-320L - Pedagogy and Curriculum and Lab Credits: 3, 1**
An exploration and analysis of teaching strategies, curriculum, and learning. The course examines how and what to teach. Curriculum models, lesson planning, objectives, goals, scope and sequence, standards, assessment, research-based practices, differentiation, questioning techniques, and cultural diversity. Corequisites: ECE 320L-320 and ECE 360-360L.

**ECE 321 - Learner Centered Assessment Credits: 3**
This course offers in-depth study of documentation and assessments that meet the needs of the inclusive classroom. An understanding of key terminology will be stressed. During this course, pre-service teachers will plan, develop, and implement student-centered assessments using a teacher research model. This course requires a lab with placement in both preK and primary grade classrooms.

**ECE 322 - Contemporary Curriculum Perspectives Credits: 3**
Topics of study include content and methods of instruction for teaching an integrated curriculum in preschool and primary grades with specific emphasis on science, social studies, creative arts and assessment. Students learn about science and social studies-related state and national standards and how to teach social skills and diverse perspectives. This course requires a placement in a Kindergarten classroom. Corequisites: ECE 321 and EDFN 466.

**ECE 325 - Inclusion and the Diverse Learner Credits: 3**
The course explores issues surrounding the diverse learner in the early childhood setting. The course discusses current theories, issues and practices related to the diverse learner including: historical, philosophical and attitudinal attributes, early intervention legislature, and service delivery models.

**ECE 360-360L - Play and Inquiry and Lab Credits: 3, 1**
Students will explore and experience the importance and value of play and inquiry (such as risk-taking, creativity, perspective-taking, and inclusion). Exploration of global perspectives of play and models of purposeful play and of different materials and how to incorporate these materials into learning experiences for young children. Prerequisites: Acceptance into Early Childhood Education (ECE) program. Corequisites: ECE 360L-360.

**ECE 361-361L - Methods and Materials/Early Childhood Education and Lab Credits: 2, 1**
Applications for early childhood classrooms will be studied. Inquiry-based, hands-on methods to address materials exploration, creative and affective development, anti-bias and culturally responsive curriculum which are both developmentally appropriate and inclusive for all children from ages three to eight. Prerequisites: Admission to PS I, ECE 150, ECE 371 and ECE 372. Corequisites: ECE 361L-361, ECE 328-328L, ECE 362-362L and ECE 363-363L.

**ECE 366-366L - Interdisciplinary and Teacher Research in ECE and Lab Credits: 3**
Investigation of documentation, inquiry, teacher-research, and interdisciplinary research. Students will engage in teacher-research or interdisciplinary research. Instructor consent. Prerequisites: Instructor consent. Corequisites: ECE 366L-366.

**ECE 412 - Kindergarten Education (COM) Credits: 2-3**
Course designed for students and teachers interested in work with kindergarten-age children. Issues, activities, and materials specific to kindergarten will be emphasized.

**ECE 441 - Professional Issues in ECE Credits: 2**
This course is designed to be a study of professional issues in the Child and Family Studies field, specifically early childhood education. Course materials are inclusive of professional goals, career goals, job search, professional documents, public policy, advocacy, leadership, professional development, ethics, and workplace issues.

**ECE 455 - Administration and Supervision of Early Childhood Setting Credits: 3**
Exploration of issues surrounding the administration of early childhood programs including identification of community needs, evaluation and appropriate use of space, equipment and materials, and policy and legal responsibilities. Exploration of staff selection, training and supervision.

**ECE 466 - Literacy in ECE Credits: 3**
Exploration of the main areas of speaking, listening, reading and writing experiences of young children through early childhood. Including current research and educational practices.

**ECE 470 - Early Childhood Inclusion Strategies Credits: 3**
This course provides undergraduate students with an applied overview of the following current topics in early childhood special education (ECSE- Birth to 8 years); risk determinants, disability characteristics and developmental implications, current technology/equipment and implications, prevention, adaptations, assessment models, individualized planning and implementation of inclusive curriculum for children with special needs and their families. Corequisites: ECE 488.

**ECE 471 - Reading Diagnostics Credits: 3**
This course will explore evidence based, formal assessments and screenings for diagnosis of common reading disabilities and at risk students. In addition, further exploration of the use of diagnostic measures with the context of other assessments that are part of a school's assessment plan.

**ECE 475 - Pedagogy and Guidance in ECE Credits: 3**
This course explores the unique aspects of instructional design and guidance techniques for children birth through grade three. Content includes: classroom management, organizing the learning environment, developing effective lessons plans and aligning to curriculum goals, and exploring models of teaching and approaches to learning.

**ECE 485 - Preparation for Licensure and Practice Credits: 1**
This course will provide content related to various early childhood education topics and pedagogies that will assist students in becoming better prepared for the Praxis Content and PLT exams required for teacher certification. Prerequisites: ECE 320-320L and ECE 360-360L.

**ECE 488 - Student Teaching (COM) Credits: 1-12**
Students preparing for teaching in the early childhood setting will observe, participate, and teach under the supervision of the regular classroom teacher in an approved early childhood setting. An additional "Mandatory Fee" applies to this course.

**ECE 491-591 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**ECE 492-592 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ECE 495 - Practicum (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**ECE 496 - Field Experience (COM) Credits: 1**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**ECE 645 - Contemporary Perspectives in Early Childhood Education Credits: 3**

**ECE 665 - Parent Education: Theory and Issues Credits: 3**

**ECE 676 - Early Childhood Education Administration and Practicum Credits: 1-4**

**ECE 711 - Developmental Theory and Application Credits: 3**

**ECE 715 - Cognitive Development Credits: 3**

**ECE 788 - Individual Research and Study Credits: 1-7**

**ECE 791 - Independent Study (COM) Credits: 1-3**

**ECE 792 - Topics (COM) Credits: 1-3**

**ECE 794 - Internship (COM) Credits: 1-7**

**ECE 795 - Practicum (COM) Credits: 1-6**

**ECE 798 - Thesis (COM) Credits: 1-7**

## ECON (Economics)

**ECON 119 - First Year Seminar Credits: 1**
The First Year Seminar course provides an introduction to academic life at SDSU as well as career exploration within the Economics Department. The course will explore majors and careers as well as graduation requirements, introduce professional development topics, and explore professional goals. Students should enroll in this course during their first year at SDSU.

**ECON 201 - Principles of Microeconomics (COM) [SGR #3] Credits: 3**
Principles of Microeconomics studies basic economic concepts as they relate to consumer, worker, and business decisions. Emphasis is given to satisfaction maximizing behavior by individuals and profit maximization by firms. Market structures are thoroughly analyzed regarding their effect on price, output, and competitiveness. Notes: Course meets SGR #3.

**ECON 202 - Principles of Macroeconomics (COM) [SGR #3] Credits: 3**
Principles of Macroeconomics considers the economy as a whole, how its sectors interact, and how monetary and fiscal policy can influence output, inflation, interest rates, unemployment, poverty, debt, and other factors. Notes: Course meets SGR #3.

**ECON 301 - Intermediate Microeconomics (COM) Credits: 3**
Intermediate microeconomics examines more advanced microeconomic theory, then applies it to consumers' and businesses' consumption, pricing, and output decisions in various types of markets. Prerequisites: ECON 201 and (MATH 121 or MATH 123).

**ECON 302 - Intermediate Macroeconomics (COM) Credits: 3**
Intermediate macroeconomics examines more advanced macroeconomic theories, then uses them to understand the determinants of national output, prices, interest rates, and employment under various conditions, and to evaluate effectiveness of monetary and fiscal policies. Prerequisites: ECON 202 and (MATH 121 or MATH 123).

**ECON 319 - Seminar with Industry Leaders Credits: 1**
Students will hear about top of the mind issues from leaders of state, regional, national, or multi-national companies or agencies. Students will research and engage in discussion on how these issues are addressed by management and how they will impact business and economic decisions.

**ECON 330 - Money and Banking (COM) Credits: 3**
Money and banking examines the historical development of money, the bank system, and the federal reserve in the United States. The course studies interest rate determination and how monetary policy affects rates and the economy. Prerequisites: ECON 201 and ECON 202.

**ECON 370 - Marketing (COM) Credits: 3**
Marketing; market organization and cooperative marketing functions; pricing; efficiency, and role and management of marketing activities. Prerequisites: ECON 201. Cross-Listed: BADM 370/MKTG 370.

**ECON 372 - Introduction to Resource and Environmental Economics Credits: 3**
Introduction to environmental economics. The course surveys environmental issues such as pollution and carbon emissions. Cost-benefit analysis of the cleanup of environmental problems is introduced as are net present value metrics. Cross-Listed: AGEC 372.

**ECON 405 - Comparative Economic Systems (COM) Credits: 3**
Comparative economic systems studies the characteristics of modern economic systems and the significant thought and experience that have influenced their emergence and development. It uses the U.S. as a benchmark for comparing developed and developing economies in terms of output per capita, social welfare, income distribution, and other conditions. Prerequisites: ECON 201 and ECON 202.

**ECON 413-513 - Macroeconomic Policy Credits: 3**
Students study government policies designed to shape macroeconomic activity. These policies include fiscal policy, monetary policy, foreign-exchange policy, growth policy, and tax policy. Students study these policies and their macroeconomic consequences theoretically and empirically. Prerequisites: ECON 202.

**ECON 423 - Introduction to Econometrics (COM) Credits: 3**
Introduction to econometrics studies probability, point and interval estimation, test of hypotheses, multiple regression and correlation, chi-square analysis, and analysis of variance. Prerequisites: (ECON 201 or ECON 202) and (STAT 281 or BADM 220) and (MATH 121 or MATH 123 or MATH 125 or MATH 225).

**ECON 428 - Mathematical Economics Credits: 3**
Mathematical methods in introductory calculus and linear algebra. Applications to economic analysis. Static and dynamic partial and general equilibrium models, production functions, activity analysis, distribution, cycles, growth, mathematical programming, and model building. Prerequisites: ECON 301, ECON 302, and MATH 121 or MATH 123.

**ECON 431 - Managerial Economics Credits: 3**
Applications of microeconomic theory, statistics and other quantitative methods to analysis and solution of decision making problems confronted by managers of agribusiness, commercial and manufacturing enterprises. Topics include economic analysis of demand, production, cost, market structure, government regulation, risk, and capital budgeting. Prerequisites: ECON 201 and STAT 281.

**ECON 433-533 - Public Finance (COM) Credits: 3**
Public finance focuses on the role of the public sector in the United States economy. It uses economic analysis to examine when government intervention in a market economy might be justified and to evaluate public spending and taxes. Prerequisites: ECON 433: ECON 201 and ECON 202; ECON 533: None.

**ECON 440-540 - International Economics Credits: 3**
Explored the economic interaction between sovereign states, including the gains from trade, the pattern of trade, protectionism, the balance of payments, exchange rate determination, international policy coordination, and the international capital market. Prerequisites: ECON 201 and ECON 202. Cross-Listed: AGEC 440-540.

**ECON 450-550 - Industrial Organization (COM) Credits: 3**
Industrial organization studies how different industry structures influence firm performance and business practices, and how government policies affect competitiveness and the economy. Prerequisites: ECON 201 and ECON 202.

**ECON 453-553 - Risk Management - Personal and Business Credits: 3**
Applications of risk modelling and evaluation skills to personal or business project management. Topics include risk initiation, identification, assessment, and response planning. Prerequisites: (ECON 301 or ECON 431) and (STAT 281 or STAT 381 or STAT 382). Cross-Listed: DSCI 453-553.

**ECON 460-560 - Economic Development Credits: 3**
Developing and developed national economies. Factors impacting economic development. Role of public policies in development. Agricultural and rural development issues emphasized. Prerequisites: ECON 460: ECON 201 and ECON 202 or consent; ECON 560: None.

**ECON 467-567 - Labor Law and Economics Credits: 3**
Explores history and development of the U.S. labor movement; the labor market from firm's and union's viewpoint; contract administration; collective bargaining; and public policy toward collective bargaining. Also explores current topics in employment law, discrimination, and employment at will. Cross-Listed: BLAW 467-567.

**ECON 472-572 - Resource and Environmental Economics (COM) Credits: 3**
Resource and environmental economics surveys the allocation and conservation of natural resources from a perspective of optimal use and sustainability. Emphasis is placed on environmental economics including the problems of pollution, population, and economic growth. Methods for evaluating projects and programs are considered. Prerequisites: ECON 201. Cross-Listed: AGEC 472-572.

**ECON 476-576 - Marketing Research (COM) Credits: 3**
This course provides an in-depth study of the primary methodologies of marketing research. Emphasis is placed on collecting, analyzing, interpreting and presenting information for the purpose of reducing uncertainty surrounding marketing and management decisions. Prerequisites: BADM/ECON/MKTG 370 and (BADM 220 or MATH/STAT 281). Cross-Listed: MKTG 476-576.

**ECON 485 - Economics Capstone Credits: 3**
Integrate and apply qualitative and quantitative methods to analyze contemporary economic problems. Prerequisites: Economics majors only, senior class standing, ECON 301, ECON 302, ECON 423, and ECON 428.

**ECON 490-590 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students. Prerequisites: ECON 201 or ECON 202.

**ECON 491-591 - Independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**ECON 492-592 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ECON 494 - Internship (COM) Credits: 1-6**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**ECON 496 - Field Experience (COM) Credits: 1-3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**ECON 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**ECON 593 - Workshop (COM) Credits: 1-3**

**ECON 662 - Bio-Energy Economics and Sustainability Credits: 3**

**ECON 663 - Bio-Energy Feasibility and Commercialization Credits: 3**

**ECON 672 - Bioenergy and Resource Economics Credits: 3**

**ECON 691 - Independent Study Credits: 1-3**

**ECON 692 - Topics (COM) Credits: 1-4**

**ECON 703 - Advanced Macroeconomics Credits: 3**

**ECON 704 - Advanced Microeconomics Credits: 3**

**ECON 705 - Econometrics Credits: 3**

**ECON 707 - Research Methodology in Applied Economics Credits: 1-3**

**ECON 713 - Monetary Theory and Practice: The American Experience Credits: 3**

**ECON 740 - Investment Science Credits: 3**

**ECON 751 - Advanced Managerial Economics Credits: 3**

**ECON 752 - Advanced Business Decision Science Credits: 3**

**ECON 753 - Financial Management Credits: 3**

**ECON 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**ECON 792 - Topics (COM) Credits: 1-4**

**ECON 798 - Thesis (COM) Credits: 1-7**

## EDAD (Educational Administration)

**EDAD 705 - Introduction to School Administration Credits: 3**

**EDAD 706 - Supervision Credits: 3**

**EDAD 707 - The Principalship Credits: 2**

**EDAD 708 - Elementary Principalship Practicum Credits: 1**

**EDAD 709 - Secondary Principalship Practicum Credits: 1**

**EDAD 731 - School Finance Credits: 2**

**EDAD 736 - Educational Law and Legislation Credits: 3**

**EDAD 741 - Community and Public Relations Credits: 3**

**EDAD 790 - Seminar (COM) Credits: 1-9**

**EDAD 791 - Independent Study (COM) Credits: 1-3**

**EDAD 792 - Topics (COM) Credits: 1-3**

**EDAD 794 - Internship (COM) Credits: 1-8**

## EDER (Education Evaluation & Research)

**EDER 415 - Educational Assessment (COM) Credits: 2**
A study of educational measurements covering both the elementary and secondary fields.

**EDER 610 - Introduction to Research Credits: 3**

**EDER 612 - Inquiry and Action Research Credits: 3**

**EDER 614 - Advanced Educational Research Design and Analysis Credits: 3**

**EDER 691 - Independent Study (COM) Credits: 1-3**

**EDER 711 - Educational Assessment (COM) Credits: 3**

**EDER 760 - Informational Literacy Credits: 3**

**EDER 788 - Master's Research Problems/Projects (COM) Credits: 1-2**

**EDER 792 - Topics (COM) Credits: 1-3**

## EDFN (Education Foundations)

**EDFN 101 - Exploration of Teaching and Learning (COM) Credits: 1**
This course is designed to engage students in their college experience and orient them to selected theories and components of teaching and learning that lead to student success. Through readings, discussions, reflective writing, class activities, and interactions with PK-12 learners, students will study a specific topic and practice these skills.

**EDFN 338 - Foundations of American Education (COM) Credits: 1-2**
A survey of the goals, history, organization, and philosophy of pre-K-12 American education, with emphasis on teaching as a profession; contemporary issues and practices, legal and ethical responsibilities, and attributes of effective teachers.

**EDFN 340 - Adolescent Development in Educational Contexts Credits: 3**
This course is designed to prepare pre-service teachers to analyze the abilities, behaviors, and needs of learners in K-12 schools. Students will examine developmental, cognitive, and psychological theories and processes of adolescence. Students will explore human relations, equity, and the impact of culture, family, media, and peers on adolescent growth.

**EDFN 351 - Teaching and Learning I Credits: 1**
This course focuses on characteristics of learning, on learning differences, and on learning environments. The students will develop instructional competencies by analyzing their 15 hours of field experience.

**EDFN 352 - Teaching and Learning II Credits: 3**
This course focuses on instructional practice as part of professional learning environments. Students will study evidence-based instructional practice and will prepare and deliver lessons in micro-teaching labs and in PK-12 classrooms.

**EDFN 352L - Teaching and Learning II Lab Credits: 2**
After studying the art and science of teaching in the seminar, students will plan and deliver lessons within small learning communities on campus and in PK-12 classrooms, receiving peer and professional feedback.

**EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2**
Prepares students to integrate computers into the curriculum by exploring the evolving uses and expectations of technology as a teaching and learning tool. Course objectives based on ISTE standards.

**EDFN 427-527 - Middle School: Philosophy and Application Credits: 2**
Group processes and issues in affective education at the middle school/junior high level. Topics for study are group processes, interdisciplinary team planning, cooperative learning, student advisory programs, self-esteem building, and student/teacher relationships. Prerequisites: Consent (admission into teacher education program, junior standing, an adolescent psychology/development course).

**EDFN 453 - Teaching and Learning III Credits: 3**
The first semester of the year-long residency will allow students to begin the process of synthesizing all of the elements of the InTASC Core Teaching Standards in order to appreciate the complex role of instructional leader in the classroom. Several instructional modules will provide the framework for inquiry, in which university faculty and site-based professionals mentor teacher candidates throughout their time in the field. Prerequisites: EDFN 352. Corequisites: EDFN 453L or instructor consent.

**EDFN 453L - Teaching and Learning III Lab Credits: 4**
As a complement to the instructional modules, students will plan and deliver lessons in a PK-12 classroom, with guidance and feedback from professional educators. Prerequisites: EDFN 352. Corequisites: EDFN 453 or instructor consent.

**EDFN 454 - Teaching and Learning IV: Student Teaching Credits: 11**
The second semester of the year-long residency is an intensive full-time field experience where teacher candidates will assume greater responsibility in the classroom, including the study and documentation of student learning. Together with their peers and with university faculty and site-based professionals, the teacher candidates will study and implement a variety of evidence-based instructional practices. Using the InTASC Core Teaching Standards as a guideline, teacher candidates will participate in a process of reflection and goal-setting for the purpose of professional growth and development. Prerequisites: EDFN 453. Corequisites: SEED 456.

**EDFN 460-560 - Applied Linguistics for Teaching English as a Second Language (COM) Credits: 3**
The study of social and linguistic structures which undergird different discourse forms. Emphasis will be on discourse forms which are particularly important for full participation in US culture such as the rhetoric of public and school interactions.

**EDFN 461-561 - Cultural and Psychological Perspectives in the Acquisition of English as a Second Language Credits: 3**
Addresses the social and cognitive processes involved in the acquisition of a second language including developmental influences.

**EDFN 462-562 - Teaching Language Arts for English as Second Language Across the Curriculum Credits: 3**
The teaching of reading and writing to students with limited English proficiency. Emphasis will be on reading and writing as it pertains to performance in educational and public settings.

**EDFN 463-563 - Methods of Teaching English as Second Language Credits: 3**
Develops the central concepts, tools of inquiry, and structure of teaching English to students with limited English proficiency. Includes the evaluation of instructional processes, learning resources, curriculum, and programs. Emphasis will be on teaching students to use English in educational and public settings.

**EDFN 466 - Literacy in Primary Grades Credits: 3**
This course is designed for individuals interested in teaching literacy in the primary grades. It follows the International Reading Association's (IRA) professional standards and includes scientifically-based reading research regarding instruction and assessment Corequisites: EDFN 466L.

**EDFN 466L - Literacy in Primary Grades Lab Credits: 0**
Lab to teach reading methods in local elementary primary classrooms. This will be an application of material learned in EDFN 466-566. Corequisites: EDFN 466.

**EDFN 475 - Human Relations (COM) Credits: 3**
Focuses on characteristics, contributions, and strengths of a pluralistic society; various cultural perspectives and specific information about cultures, the dehumanizing impact of biases and negative stereotypes; and the human relations approach to teaching.

**EDFN 492-592 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**EDFN 496 - Field Experience (COM) Credits: 1**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**EDFN 600 - Advanced Pedagogy Credits: 3**

**EDFN 610 - Foundations of Competency-Based Learning Credits: 3**

**EDFN 615 - Building and Maintaining Competency-Based Learning Programs Credits: 3**

**EDFN 620 - Upscaling, Sustainability, and Evaluation in Competency-Based Learning Programs Credits: 3**

**EDFN 691 - Independent Study Credits: 1-3**

**EDFN 700 - Exceptional Learners Credits: 3**

**EDFN 701 - Capstone Credits: 1**

**EDFN 725 - Education in a Pluralistic Society Credits: 3**

**EDFN 727 - Group Processes Credits: 3**

**EDFN 730 - Current Issues in Education (COM) Credits: 3**

**EDFN 750 - Technology in Education Credits: 3**

**EDFN 751 - Teaching Reading Across Disciplines Credits: 3**

**EDFN 790 - Seminar (COM) Credits: 1-3**

**EDFN 792 - Topics (COM) Credits: 1-3**

**EDFN 794 - Internship (COM) Credits: 1-6**

**EDFN 798 - Thesis (COM) Credits: 1-6**

## EE (Electrical Engineering)

**EE 101L - Introduction to Electrical Engineering Lab Credits: 1**
An introduction to the study of electrical engineering using a hands-on electronics approach in a lab setting. Corequisites: MATH 115.

**EE 216-216L - Linear Circuits I and Lab Credits: 3, 1**
This course is designed to provide the electrical engineering students with an understanding of the basic concepts of the profession. Topics covered include the study of linear circuits composed of resistors, capacitors and inductors. DC analysis will be thoroughly studied. Transient analysis of driven and switched circuits will be introduced. Students will investigate essential principles by conducting laboratory experiments related to the topics studied in the classroom. Prerequisites: "C" or better in MATH 123. Corequisites: EE 216L-216 and MATH 125.

**EE 218-218L - Linear Circuits II and Lab Credits: 3, 1**
This course is designed to provide the electrical engineering student with an understanding of the basic concepts of the profession. Topics covered include 2nd order resistive, capacitive, inductive circuits, transient circuits, and sinusoidal analysis. Students are introduced to parametric and frequency response simulation methods using software engineering tools, such as SPICE and MATLAB. Students also investigate essential principles by conducting laboratory experiments related to the topics studied in the classroom. Prerequisites: "C" or better in MATH 125 and "C" or better in EE 216-216L or EE 220-220L. Corequisites: EE 218L-218 and MATH 321.

**EE 222-222L - Energy Conversion and Lab Credits: 3, 1**
This course is designed to provide the electrical engineering student with an understanding of the basic concepts of the profession. Topics covered include resistive, capacitive and inductive circuits, transient and sinusoidal analysis. Other topics include magnetically coupled devices, such as transformers, DC and AC motors, as well as alternative energy conversion technologies. Students also investigate essential principles by conducting laboratory experiments related to the topics studied in the classroom. Software tools are used to analyze electrical circuits. Prerequisites: MATH 321 and "C" or better in EE 218-218L. Corequisites: EE 222L-222.

**EE 224L - EE Software Tools Lab Credits: 1**
Introduction to software application tools used in a majority of electrical engineering courses. Two primary applications tools studied are PSpice (circuit simulation) and MATLAB (matrix-based mathematics software). The course enables rapid mastery of each application's syntax and provides an ability to apply each tool to analyze and/or solve electrical engineering problems. The course is taught concurrently with EE 222 (Circuits and Machines) allowing for several circuit applications to be explored while learning the fundamentals of each tool. Prerequisites: "C" or better in EE 220 and CSC 150 or consent. Corequisites: EE 222.

**EE 245-245L - Digital Systems and Lab Credits: 3, 1**
The fundamental concepts of analysis and design of digital circuits including combinational and sequential logic design using TTL, CMOS, PLD's and software tools. Laboratory topics which enhance the design concepts of the lecture course, EE 245. Prerequisites: "C" or better in CSC 150. Corequisites: EE 245L-245.

**EE 260 - Electronic Materials Credits: 3**
Introduction to the materials, processes and designs used for the fabrication of electronic devices and packaging. Prerequisites: CHEM 112, PHYS 213, and "C" or better in EE 216.

**EE 291 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**EE 292 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**EE 300-300L - Basic Electrical Engineering I and Lab Credits: 3**
Circuit analysis and measurement concepts applicable to dc and sinusoidal ac electrical systems, including Ohm's Law and Kirchhoff's Laws. Non-EE students. Hands-on exposure to electrical components, circuits, test equipment and safety issues. Experiments are designed to reinforce the theoretical concepts presented in EE 300. For non-EE students. Hands-on exposure to electrical components, circuits, test equipment and safety issues. Experiments are designed to reinforce the theoretical concepts presented in EE 300. For non-EE students. Prerequisites: MATH 125 and PHYS 213. Corequisites: EE 300L-300.

**EE 302-302L - Basic Electrical Engineering II and Lab Credits: 3**
Introduction to analog and digital electronic devices and applications. For non-EE students. Prerequisites: EE 300-300L.

**EE 310 - Probabilistic Methods in Electrical Engineering Credits: 3**
Basic probability and random variables. Applications to system reliability and effect of tolerance specifications. Description of engineering systems and problems using nondeterministic modeling. Prerequisites: EE 316.

**EE 315 - Linear Control Systems Credits: 3**
Feedback control systems by operational and differential methods. Topics include differential and Laplace system modeling, Nyquist and Routh-Hurwitz stability analysis, and cascade PID/lead/lag and state-space feedback compensation design using root-locus, Bode and Ackermann's pole-placement methods. Prerequisites: EE 316.

**EE 316 - Signals and Systems I Credits: 3**
Description of deterministic signals through use of Fourier Series, Fourier and Laplace transforms. System descriptions and response treated by differential equations and transform theory. Prerequisites: "C" or better in EE 221 or EE 222.

**EE 317 - Signals and Systems II Credits: 3**
Study of discrete time signals and systems, including difference equations, discrete Fourier transforms, and Z transform. Applications and methods of digital signal filtering are considered. Prerequisites: EE 316.

**EE 320-320L - Electronics I (COM) Credits: 3, 1**
Presents concepts of electronic devices and circuits including modeling of semiconductor devices, analysis and design of transistor biasing circuits, and analysis and design of linear amplifiers. Use of computer simulation tools and breadboarding as part of the circuit design process is emphasized. Students are introduced to methods for designing circuits that still meet specifications even when there are statistical variations in the component values. Lab accompanies EE 320. Prerequisites: EE 221 or EE 222 (completed or concurrent). Corequisites: EE 360.

**EE 321-321L - Electronics II and Lab Credits: 3, 1**
Design and analysis concepts for linear and digital electronic circuits. Emphasis on integrated circuit design. Experimental design and analysis of electronic circuits Prerequisites: EE 320. Corequisites: EE 321L-321.

**EE 345 - Computer Organization Credits: 3**
An introductory course in computer organization, with an emphasis on hardware and implementation. Shows how basic digital circuits are combined and augmented to build all of the parts of a modern computer. Performance enhancements and their hardware implementations are investigated. Topics include instruction set architecture, I/O organization, pipelining, memory systems and cache memory, parallel processing, and embedded systems. Multiple examples are drawn from case studies of several modern processors. Prerequisites: "C" or better in EE 245-245L.

**EE 347-347L - Microcontroller Systems Design and Lab Credits: 3, 1**
Hardware concepts, organization and design of microcomputer systems, including single-chip microcomputers. Principles of microcomputer programming and operation using machine and assembly language. Laboratory topics which enhance the design concepts of the concurrent lecture course, EE 347. Prerequisites: EE 345. Corequisites: EE 347L-347.

**EE 360 - Electronic Devices Credits: 3**
Introduction to microelectronic devices, semiconductor and junction theory, semiconductor devices, other solid-state devices. Prerequisites: "C" or better in EE 260.

**EE 385 - Electromagnetics Credits: 4**
Experimental results of Coulomb, Ampere, and Faraday, classical field theory. Forces, potentials, energy storage and dissipation are all treated for static fields. Faraday's induction law, Maxwell's displacement current, and a complete description of the time-varying fields given by Maxwell's equations. Prerequisites: EE 221-221L or EE 222-222L and MATH 225.

**EE 420-420L - Electronics III and Lab Credits: 3, 1**
Selected topics in the design of analog and digital electronics. Provides increased understanding of theory, simulation, and application of semiconductor devices. Experimental design and analysis of analog and digital electronic circuits. Prerequisites: EE 245 and EE 321-321L. Corequisites: EE 420L-420.

**EE 422 - Engineering Economics and Management Credits: 2**
Economic aspects of engineering, annual cost and present worth calculations, and decisions among alternatives are treated. Management of life cycle, requirements generation, risk management, project management, and systems engineering are also covered. Corequisites: EE 464.

**EE 430-430L - Electromechanical Systems and Lab Credits: 4**
Basic engineering laws and concepts in analysis of electromechanical energy-conversion systems and devices. Includes study of DC and AC machines, and electronic drives. Systems, including electronic drives, electric machines, and mechanical loads, are analyzed in open-loop and closed-loop control for systems under steady-state and transient conditions. Experimental work with electronic drives and electric machines. Prerequisites: EE 385. Corequisites: EE 430L-430.

**EE 434-434L - Power Systems and Lab Credits: 3, 1**
Basic parameters of transmission lines. Representation of power systems, symmetrical components, network equations and solutions, load-flow studies and load-flow control, and symmetrical faults on synchronous machines. Computer (PowerWorld Simulator and/or PSCAD) modeling and simulation of power systems. Load-flow and load-flow control, symmetrical and asymmetrical faults, and contingency analysis studies are performed. Corequisites: EE 434L-434 and EE 385**.**

**EE 436-436L/536-536L - Photovoltaic Systems Engineering and Lab Credits: 3, 1**
Fundamentals of hybrid photovoltaic power systems. Topics may include: an overview of energy and electricity use; solar resource characteristics; load assessment; the fundamentals of solar cells, batteries, power electronics, and generators and other power sources; power system design; the National Electric Code; and energy economics. This lab provides practical experience in the design of hybrid photovoltaic power systems. Prerequisites: EE 320 and EE 360. Corequisites: EE 436L-436/536L-536.

**EE 438 - Power Technology Tour Credits: 1**
Approximately 10 tour sites are visited and all companies cooperate with the tours by making special presentations on the site. Central to the theme of the course is to have inspections of electric generation, substation and industrial sites in the four-state area of South Dakota, North Dakota, Minnesota, and Wisconsin, which make a significant contribution to present electric power technology. Typical sites have included hydro, steam, and nuclear generation plants; sunflower and wood, and garbage co-generation plants; lignite coal fields; 400 kV DC transmission line terminals; 500 kV AC substation; energy control centers; coal gasification plant; static VAR generators, taconite mining and paper mills, wind power manufacturers, coal handling facilities, various manufacturing facilities. Prerequisites: Instructor consent.

**EE 454-554 - Biomedical Instrumentation and Electrical Safety Credits: 3**
The design of electronic instrumentation for physiological applications. Emphasis on modeling and design of biopotential electrode/amplifier systems, physiological measurement techniques, therapeutic and prosthetic devices, and electrical safety in health care facilities. Prerequisites: EE 321 or consent.

**EE 460-460L/560-560L - Sensor and Measurements Laboratory Credits: 2, 1**
Introduction to the operation, design, testing and applications of modern sensors in use and under development. Signal conditioning and system integration are also reviewed. Laboratory to accompany EE 460-560. Corequisites: EE 460L-460/560L-560.

**EE 462L-562L - Electronic Materials Lab Credits: 1**
An introduction to microelectronic fabrication techniques including evaporative and sputter deposition, photolithography, mask design, and packaging. Prerequisites: Instructor consent.

**EE 464 - Senior Design Project I (COM) Credits: 2**
This course will focus on the design process and culminate with the EE faculty approval of design projects (including schematics and parts lists) for EE 465. Typical topics included are the development of a product mission statement, identification of the customer and customer needs, development of target specifications, consideration of alternate designs using a decision matrix, project management techniques, legal and ethical issues, FCC verification and certification, uses of probability and statistics for reliable design, interpretation of data sheets, and component selection. Prerequisites: Senior standing and (EE 317, EE 321-321L, EE 347-347L, EE 360, and ENGL 277) or (EE 313, EE 314, EE 322, and ENGL 289) (completed or concurrent). Corequisites: EE 422.

**EE 465 - Senior Design Project II (COM) Credits: 2**
Sequel to EE 464 Senior Design I. Seniors build and test design project in simulated environment incorporating engineering standards and realistic constraints. Requirements include laboratory notebook, progress reports, final oral presentation and written report. Prerequisites: EE 464.

**EE 469-569 - Fundamentals of High-Performance Computing Credits: 3**
An introduction to high-performance computing (HPC) and its application to scientific research computing: accessing and using HPC clusters, task and process-based parallelism, shared and distributed memory, using hardware accelerators (e.g., graphics processing units), and other emerging topics. Cross-Listed: CSC 469-569.

**EE 470 - Communications Engineering Credits: 3**
Modulation and detection methods including circuit analysis and design for digital and analog communication systems are presented. Prerequisites: EE 316 and EE 320.

**EE 475-575 - Digital Image Processing Credits: 3**
Introduction to the fundamentals of digital image processing. Topics include image formation, transforms, enhancement, restoration, compression, and analysis. Prerequisites: EE 317 or consent.

**EE 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**EE 492-592 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**EE 494 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**EE 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**EE 591 - Independent Study (COM) Credits: 1-4**

**EE 592L - Topics in Laboratory Experience (COM) Credits: 1**

**EE 691 - Independent Study (COM) Credits: 1-4**

**EE 692 - Topics (COM) Credits: 1-4**

**EE 716 - Digital Fabrication: Materials and Processes (COM) Credits: 3**

**EE 731-731L - Advanced Power Electronics and Lab Credits: 4, 1**

**EE 732-732L - Modeling and Control of Power Electronic Systems and Lab Credits: 3, 1**

**EE 733-733L - Advanced Power System Analysis and Lab Credits: 3, 1**

**EE 734-734L - Power System Dynamics and Stability and Lab Credits: 3, 1**

**EE 735 - Photovoltaics (COM) Credits: 3**

**EE 736 - Advanced Photovoltaics (COM) Credits: 3**

**EE 737 - Organic Photovoltaics (COM) Credits: 3**

**EE 751 - Linear Systems Theory Credits: 3**

**EE 765 - Electric Properties of Materials Credits: 3**

**EE 766 - Thin Films and Plasma Processing Credits: 3**

**EE 770 - Information and Signal Processing Credits: 3**

**EE 788 - Master's Research Problems/Project (COM) Credits: 1-3**

**EE 790 - Seminar (COM) Credits: 1**

**EE 791 - Independent Study (COM) Credits: 1-9**

**EE 792 - Topics (COM) Credits: 1-4**

**EE 798 - Thesis (COM) Credits: 1-7**

**EE 898D - Dissertation - PhD (COM) Credits: 1-6**

## EEC (Early Education & Care)

**EEC 330 - Child Development - Birth to 3 Credits: 3**
This course will focus on development from birth to age three. Major theories and research on development will be covered including growth patterns, the influences of disabilities and risk factors, environmental factors and their effects on attachment styles, language acquisition, brain development, cognitive development, social-emotional development, and perceptual and sensory motor skills. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 331 - Child Development - 4 to 8 Credits: 3**
This course will focus on development from ages four through eight. Major theories and research on development will be covered including growth patterns, the influences of disabilities and risk factors, environmental factors and their effects on attachment styles, language acquisition, brain development, cognitive development, social-emotional development, and perceptual and sensory motor skills. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 332 - Child Guidance and Classroom Environments Credits: 3**
This course is designed to provide students with a working knowledge of developmentally appropriate practice in child guidance. This goal will be accomplished through review of current guidance methods and programs in order to familiarize students with successful guidance techniques. By the end of this course, students will develop their own approach to guidance based upon practices best suited to their own unique skills and strengths. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 333 - Professional Development for Early Childhood Education Providers Credits: 3**
This course will explore the role of a professional as a teacher, administrator or advocate in early childhood programming. Students will learn about professionalism and ethics, identifying child abuse, and applying universal precautions. Discussion of qualities of the early childhood educator role, program models, and working with children and professional colleagues. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 334 - Diversity in the Lives of Young Children and Families Credits: 3**
The exploration of cultural diversity in daily life and beliefs in families with young children. The focus is on U.S. families, with attention to the multiple cultures from which they come. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 335 - Technology and Young Children Credits: 3**
Students will learn how electronic technology impacts the development of young children in educational, home, and community environments, and how technology can be used to enhance teaching and learning. Students will be critical thinkers and informed consumers of technology related to young children. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 336 - Working with Families Credits: 3**
Application of an ecological model to the understanding of variation in parental roles, perspectives, relationships, approaches, and challenges. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 337 - Practicum I - Child Observations in Classroom Environments Credits: 3**
Practicum in Early Childhood Education is an opportunity for ECE teacher candidates to have a guided learning experience in a professional agency that provides services to children and families. It is expected that learning experiences and projects at the practicum site will provide teacher candidates with the opportunity to utilize and implement theories and practices learned in other ECE classes. Prerequisites: EEC 330, EEC 331, EEC 332, EEC 333, and ECE 220. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 430 - Development of Curriculum for Children Ages Birth to 3 Credits: 3**
In this course, students will (1) learn and utilize assessment and documentation to inform curriculum, (2) plan and evaluate developmentally appropriate activities, and (3) learn about effective ways to share curriculum information with families. This course addresses all areas of developmental domains and content areas; issues related to diversity in family composition, culture, and individual abilities will also be addressed. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 431 - Development of Curriculum for Children Ages 4 to 8 Credits: 3**
In this course, students will (1) learn and utilize assessment and documentation to inform curriculum, (2) plan and evaluate developmentally appropriate activities, and (3) learn about effective ways to share curriculum information with families. This course addresses all areas of developmental domains and content areas, and issues related to diversity in family composition, culture, and individual abilities will also be addressed. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 432 - Administration and Supervision in Early Childhood Settings Credits: 3**
The exploration of issues surrounding the administration of early childhood programs including identification of community needs, analysis of business opportunities, the evaluation and appropriate use of space and quality programming, consideration of policy and legal responsibilities, and professionalism in the field. In addition, the course explores best practices in staff selection, training, coaching, and supervision. Corequisites: EEC 436. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 433 - Assessing Young Children to Enhance Development Credits: 3**
Students will learn to select, evaluate, and use appropriate assessment tools for children birth to age 8. Students will use assessment data to inform decisions about teaching (environments and practice) and intervention. Course content includes emphasis on the ethical use of assessments, validity of assessments, multicultural sensitivity, and assessments for children with special needs. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 434 - Understanding and Adapting to Developmental Differences Credits: 3**
Students will become familiar with knowledge of disability conditions, assessment and identification, interventions in inclusive environments, and collaborations among family members and service providers. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 435 - Practicum II - Curriculum Development and Implementation Credits: 3**
Practicum in Early Childhood Education is an opportunity for ECE teacher candidates to have a guided learning experience in a professional agency that provides services to children and families. It is expected that learning experiences and projects at the practicum site will provide teacher candidates with the opportunity to utilize and implement theories and practices learned in other ECE classes. Prerequisites: EEC 337. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

**EEC 436 - Practicum III - Capstone Experience Credits: 6**
The teaching practicum is a 15 week experience designed to allow the student to demonstrate practical application of developmentally appropriate early childhood teaching techniques and skills, actual teaching experience and developmental feedback. Practicum students will be involved in observation and evaluation of classroom experiences, environmental design, classroom management, and parent communication. Prerequisites: EEC 435. Corequisites: EEC 432. Notes: Sections of this course are provided online through the Great Plains Interactive Distance Education Alliance.

## EES (Ecology & Environmental Science)

**EES 275 - Introduction to Environmental Science Credits: 3**
Presents an introduction and review of the factors influencing the quantity, quality and distribution of resources within the environment, uses of the environment and relation to human population size and demographics, effects of natural and human disturbances on the environment and economic and political considerations for environmental management.

**EES 425-425L/525-525L - Disturbance and Restoration Ecology and Lab Credits: 3**
Introduction to basic concepts of disturbance and restoration ecology. Demonstration and discussion of linkages between basic biology and management of natural resources. Prerequisites: NRM 311. Corequisites: EES 425L-425/525L-525.

**EES 430-430L/530-530L - Biological Invasions and Lab Credits: 3**
Ecological factors that contribute to species invasion in terrestrial and aquatic ecosystems will be examined. Impacts to invaded ecosystems, management implications, and mitigation strategies will be explored. Prerequisites: NRM 311. Corequisites: EES 430L-430/530L-530.

**EES 491 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**EES 492 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**EES 494 - Internship (COM) Credits: 1-12**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**EES 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**EES 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**EES 692 - Topics (COM) Credits: 1-7**

**EES 791 - Independent Study (COM) Credits: 1-3**

**EES 792 - Topics (COM) Credits: 1-6**

## EFA (Events & Facilities Administration)

**EFA 491 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**EFA 494 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses. Prerequisites: HMGT 455.

## EHS (Education & Human Sciences)

**EHS 119 - EHS Seminar Credits: 2**
The course will introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society.

**EHS 319 - Life, Love, and Money Credits: 2**
This course examines facets of life, love and money in relation to the transition from college to work. Areas such as conflict management, workplace etiquette, group processing, relationship development, and money management will be covered. The course is interdisciplinary in nature and relevant to all fields of study.

## ELED (Elementary Education)

**ELED 488 - K-8 Student Teaching (COM) Credits: 2-16**
Students preparing for teaching in the elementary school will observe, participate, and teach under the supervision of the regular classroom teacher in an approved elementary school. An additional "Mandatory Fee" applies to this course.

**ELED 592 - Topics (COM) Credits: 1-3**

## EM (Engineering Mechanics)

**EM 214 - Statics (COM) Credits: 3**
The study of the effects of external forces acting on stationary rigid bodies in equilibrium. Vector algebra is used to study two and three dimensional systems of forces. Trusses, frames and machines, shear and moment in beams, friction, centroids, moments of inertia, and mass moments of inertia are discussed. Prerequisites: MATH 123.

**EM 215 - Dynamics Credits: 3**
Newton's laws of motion are applied to particles and rigid bodies. Absolute and relative motion; force, mass and acceleration; work and energy; and impulse and momentum. Prerequisites: EM 214.

**EM 321 - Mechanics of Materials (COM) Credits: 3**
Basic concepts of stress and strain that result from axial, transverse, and torsional loads on bodies loaded within the elastic range. Shear and moment equations and diagrams, combined stresses, Mohr's circle; beam deflections; and column action and equations. Prerequisites: EM 214 or EM 216.

**EM 331 - Fluid Mechanics (COM) Credits: 3**
An introduction to the static and dynamic properties of real and ideal fluids, application of continuity, energy, and momentum principles to laminar, turbulent, compressible, and incompressible flows; and laminar and turbulent flow of fluids in closed conduits and around immersed bodies. Prerequisites: EM 215 or EM 216.

**EM 422-522 - Theory of Elasticity Credits: 3**
Analysis of stress and strain; equilibrium and compatibility equations; Hooke's law; fundamental problems in the theory of elasticity; plane-stress and plane-strain problems of the narrow beam, rotating discs and a plate with a circular hole. Prerequisites: EM 321 and MATH 331.

**EM 423-523 - Theory of Plasticity Credits: 3**
Analysis of stress and strain; plastic behavior of materials; basic laws of plastic flow; applications to bending of beams, torsion of bars and thick-walled cylinders; slip line theory and its application to extrusion problems; limit analysis theorems and their applications to structural problems. Prerequisites: EM 422-522 or consent.

**EM 624 - Theory of Plates and Shells Credits: 3**

**EM 731 - Advanced Fluid Mechanics Credits: 3**

**EM 741 - Finite Element Analysis Credits: 3**

## ENGL (English)

**ENGL 003 - English as a Second Language: Grammar Review and Intermediate Composition (COM) Credits: 3**
Conversation, listening, and reading comprehension, vocabulary and idioms, grammar review and intermediate composition.

**ENGL 013 - English as a Second Language: More Complex Structural Patterns and Advanced Composition (COM) Credits: 3**
Conversation, listening, and reading comprehension, vocabulary and idioms, more complex structural patterns, and advanced composition. Prerequisites: ENGL 003 or placement.

**ENGL 032 - Basic Writing II (COM) Credits: 2**
Intensive work in grammar and usage, punctuation, and paragraph development. Does not count toward graduation.

**ENGL 033 - Basic Writing III (COM) Credits: 3**
Intensive work in grammar and usage, punctuation, and paragraph development. Does not count toward graduation.

**ENGL 039 - English As a Second Language (COM) Credits: 1-3**
Concentrated study in aspects of the English language and the culture of its speakers. Designed for students who do not speak English as their native language.

**ENGL 101 - Composition I (COM) [SGR #1] Credits: 3**
Practice in the skills, research, and documentation needed for effective academic writing. Analysis of a variety of academic and non-academic texts, rhetorical structures, critical thinking, and audience will be included. Prerequisites: ENGL 032, ENGL 033, ENGL 039, or appropriate placement based on standardized testing. Notes: Course meets SGR #1.

**ENGL 125 - Introduction to Peace and Conflict Studies [SGR #4] Credits: 3**
Introduction to historical and contemporary debates within the discipline of Peace and Conflict Studies, during which each student is guided to identify her or his own interests within those debates, and then encouraged to evaluate and apply those interests within a coordinated service learning experience. Cross-Listed: GLST 125. Notes: Course meets SGR #4.

**ENGL 151 - Introduction to English Studies Credits: 3**
This course, required of all first year English majors, will provide students with the background and professional skills to read critically and write analytically about literary texts. In addition, the course provides training in research methods for the discipline, including use of print and electronic sources and MLA documentation style. Students will generate bibliographies, source studies, and both documented and undocumented critical essays. Essays will be based on readings from poetry, fiction, and drama and may include other genres such as non-fiction and film.

**ENGL 201 - Composition II (COM) [SGR #1] Credits: 3**
Study of and practice in writing persuasive prose, with the aim to improve writing skills in all disciplines. Prerequisites: ENGL 101 or UHON 110. Notes: Course meets SGR #1.

**ENGL 210 - Introduction to Literature (COM) [SGR #4] Credits: 3**
Readings in fiction, drama, and poetry to acquaint students with literature and aesthetic form. Prerequisites: ENGL 101. Notes: Course meets SGR #4.

**ENGL 211 - World Literature I (COM) [SGR #4] Credits: 3**
Selected works of world literature in translation from ancient times through the Renaissance. Prerequisites: ENGL 101. Notes: Course meets SGR #4.

**ENGL 212 - World Literature II (COM) [SGR #4] Credits: 3**
Selected works of world literature in translation since the Renaissance. ENGL 211 and 212 need not be taken in sequence. Prerequisites: ENGL 101. Notes: Course meets SGR #4.

**ENGL 221 - British Literature I (COM) [SGR #4] Credits: 3**
A chronological survey of British literature from Old English through the 18th century. Prerequisites: ENGL 101. Notes: Course meets SGR #4.

**ENGL 222 - British Literature II (COM) [SGR #4] Credits: 3**
A chronological survey of British literature from the 19th century to the present. ENGL 221 and ENGL 222 need not be taken in sequence. Prerequisites: ENGL 101. Notes: Course meets SGR #4.

**ENGL 240 - Juvenile Literature [SGR #4] Credits: 3**
A survey of the history of literature written for children and adolescents, and a consideration of the various types of juvenile literature. Notes: Course meets SGR #4.

**ENGL 241 - American Literature I (COM) [SGR #4] Credits: 3**
Background to and survey of major works from the beginnings to the Civil War. Prerequisites: ENGL 101. Notes: Course meets SGR #4.

**ENGL 242 - American Literature II (COM) [SGR #4] Credits: 3**
Background to and survey of major works from the Civil War to the present. ENGL 241 and 242 need not be taken in sequence. Prerequisites: ENGL 101. Notes: Course meets SGR #4.

**ENGL 248 - Women in Literature (COM) [SGR #4] Credits: 3**
Study of literature by and about women from early times to the present. Prerequisites: ENGL 101. Cross-Listed: WMST 248. Notes: Course meets SGR #4.

**ENGL 249 - Literature of Diverse Cultures [SGR #4] Credits: 3**
Study of the literature of the world's peoples to appreciate ethnicity and cultural diversity. Course materials may range from early times to the present and may also include literature from Asia, Africa, South America, and Australia, as well as works from Native American, African American, Hispanic, Chicano, Jewish, Scandinavian, etc., sources. Notes: Course meets SGR #4.

**ENGL 250 - Science Fiction (COM) [SGR #4] Credits: 3**
A survey of short stories and novels from the 19th century to the present. Notes: Course meets SGR #4.

**ENGL 256 - Literature of the American West (COM) [SGR #4] Credits: 3**
A study of the literature produced in our region, centered on the Great Plains, including that of Native Americans, both oral and written; of pioneers, immigrants; and farmers; Western literature, and current writers. Prerequisites: ENGL 101. Cross-Listed: AIS 256. Notes: Course meets SGR #4.

**ENGL 268 - Literature (COM) [SGR #4] Credits: 3**
Introductory literature course focusing on one genre such as fiction, poetry, drama, etc. The genre will be identified each semester as, for example, "Literature: Fiction," or "Literature: Poetry," etc. May be repeated with different genre and content. Prerequisites: ENGL 101. Notes: Course meets SGR #4.

**ENGL 277 - Technical Writing in Engineering [SGR #1] Credits: 3**
Study and practice of technical writing in Engineering and related disciplines Prerequisites: GE 101, AST 119, PHYS 119, or PS 119, and ENGL 101 or instructor consent. Notes: Course meets SGR #1.

**ENGL 283 - Introduction to Creative Writing (COM) [SGR #1] Credits: 3**
This course introduces students to the craft of writing, with readings and practice in at least two genres (including fiction, poetry, and drama). Prerequisites: ENGL 101 or UHON 110. Notes: Course meets SGR #1.

**ENGL 284 - Introduction to Criticism (COM) [SGR #1] Credits: 3**
A writing intensive course in analyzing and interpreting literature for English majors and minors. Includes instruction in critical approaches to literature and research tools. Prerequisites: ENGL 101 or UHON 110. Notes: Course meets SGR #1.

**ENGL 330 - Shakespeare (COM) Credits: 3**
Representative comedies, tragedies, and histories of Shakespeare Prerequisites: ENGL 101; ENGL 201 or ENGL 283 are recommended prerequisites.

**ENGL 343 - Selected Authors (COM) Credits: 1-3**
A study of the work of one or several major literary figures. Authors may vary each time the course is offered. Prerequisites: ENGL 101.

**ENGL 363 - Literary Genres (COM) Credits: 3**
A concentrated study of a particular literary genre. May include historical development of a particular literary genre (poetry, drama, the novel), or a more concentrated study of genre in the twentieth century (modern drama, modern poetry, film as literature). May be repeated for different topics. Prerequisites: ENGL 101

**ENGL 379 - Technical Communication (COM) Credits: 3**
This writing intensive course provides instruction and practice in communicating effectively in technical and professional situations. Students can expect to write and deliver both informal and formal reports, proposals, and other professional documents, using standard and electronic formats and effective, concise, and ethical written and spoken English. Students will develop skills in document design and information literacy while analyzing workplace audiences (including global audiences) and writing collaboratively. Prerequisites: ENGL 201 or ENGL 205 or ENGL 277 or ENGL 283 or ENGL 284.

**ENGL 380 - Futuristic Communications Credits: 3**
Drawing upon the tenets of Futurism, the historical artistic movement begun by Italian poet Filippo's Futurist Manifesto, this intensive writing course will expose students to a wide-ranging set of cultural disruption issues caused by machines, technological innovations, and other rapid changes in modern life. Students will consider both the positive and negative implications caused by these cultural revolutions in a wide variety of literary, artistic, and cinematic texts. They will also think critically about their own role as global citizens. Prerequisites: ENGL 101 and ENGL 201 or ENGL 283. Cross-Listed: GLST 380.

**ENGL 383 - Creative Writing (COM) Credits: 3**
Study and practice in the techniques of writing fiction, poetry, and/or drama. Prerequisites: ENGL 201 or ENGL 283.

**ENGL 424 - 7-12 Language Arts Methods Credits: 3**
Techniques, materials, and resources for teaching English language and literature to middle and secondary school students. Required of students in the English Education Option. Prerequisites: Junior class standing. ENGL 201 or ENGL 283 are recommended prerequisites. Cross-Listed: SEED 424.

**ENGL 445 - American Indian Literature (COM) Credits: 3**
Traditional oral literature and autobiographies of American Indians. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites. Cross-Listed: AIS 445.

**ENGL 447 - American Indian Literature of the Present Credits: 3**
Twentieth-century autobiography, fiction, and poetry by Native American authors. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites. Cross-Listed: AIS 447.

**ENGL 470 - Capstone in Peace and Conflict Studies Credits: 3**
Student-driven course in which the instructor guides each student through the completion of an experience-based research project of her or his design. The topic of this project will both derive from and expand upon the interests that the student has identified during the Introduction to Peace and Conflict Studies course. Prerequisites: ENGL 125; ENGL 201 or ENGL 283 are recommended prerequisites.

**ENGL 479 - Capstone Course and Writing in the Discipline Credits: 3**
In depth study of selected major author (s), works(s), or other aspects of literary history; incorporates a review of current methods of literary criticism and an intensive focus on research and writing within the discipline. To be taken in the student's final on-campus Spring semester. Prerequisites: ENGL 151; Senior standing required; ENGL 201 or ENGL 283 are recommended prerequisites.

**ENGL 481-581 - Travel Studies Credits: 1-5**
This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites.

**ENGL 483-583 - Advanced Creative Writing (COM) Credits: 3**
Advanced study of the writing process with the emphasis on refining technique and style in a genre of the student's choice, fiction, creative nonfiction, and drama. Prerequisites: ENGL 283.

**ENGL 491 - Independent Study (COM) Credits: 1-5**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**ENGL 492 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ENGL 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor for these courses than is the case with field experience.

**ENGL 534 - 18th Century English Literature (COM) Credits: 3**

**ENGL 538 - English Victorian Literature (COM) Credits: 3**

**ENGL 554 - American Realism and Naturalism (COM) Credits: 3**

**ENGL 560 - Contemporary American Literature Credits: 3**

**ENGL 591 - Independent Study (COM) Credits: 1-4**

**ENGL 592 - Topics (COM) Credits: 1-3**

**ENGL 704 - Introduction to Graduate Studies Credits: 3**

**ENGL 705 - Seminar in Teaching Composition Credits: 3**

**ENGL 710 - Seminar in Rhetoric Credits: 3**

**ENGL 723 - Seminar in English Literature to 1660 Credits: 3**

**ENGL 726 - Seminar in English Literature since 1660 Credits: 3**

**ENGL 728 - Seminar in American Literature to 1900 Credits: 3**

**ENGL 729 - Seminar in American Literature since 1900 Credits: 3**

**ENGL 742 - Seminar in American Indian Literature Credits: 3**

**ENGL 756 - Seminar in Minority Literature Credits: 3**

**ENGL 788 - Master's Research Problems/Projects (COM) Credits: 1-6**

**ENGL 791 - Independent Study (COM) Credits: 1-3**

**ENGL 792 - Topics (COM) Credits: 1-4**

**ENGL 798 - Thesis (COM) Credits: 1-7**

## ENTR (Entrepreneurship)

**ENTR 236 - Innovation and Creativity Credits: 3**
Students will learn about the variables that stimulate and inhibit creativity and innovation in individuals, teams, and organizations. Strong emphasis is placed on thinking outside the structured environment while dealing with real applications. Students will learn the process of generating ideas that lead to innovative outcomes.

**ENTR 237 - Entrepreneurship Development Credits: 3**
Students will learn and understand the concepts of what it takes to be an entrepreneur by understanding entrepreneurial characteristics, forms of business, and business finances. Students will learn the value of doing a feasibility analysis, developing goals and objectives, and a vision and mission for a business. Students will also develop a strategic business plan and implement the business plan by starting a team business. Prerequisites: ENTR 236.

**ENTR 320 - Principles and Practices of Social Entrepreneurship Credits: 3**
Students will understand principles and practices of social entrepreneurship and be introduced to perspectives and endeavors of thought leaders and entrepreneurs who address social needs through various organizations. Students will identify issues and assess needs for social improvement in a local, national, and global perspective by defining the social good and assessing the role of market forces, philanthropy, and government to create sustained positive social value.

**ENTR 338 - New Venture Creation Credits: 3**
Students will build on entrepreneurial concepts by discovering methods to structure and harvest a business, evaluate growth opportunities and challenges, understand advanced market research, business planning, learn financial concepts, ratio trend analysis, and business ethics. Students will apply the knowledge by writing individual business and marketing plans. Prerequisites: ENTR 237.

**ENTR 410 - Financing Innovative Ideas Credits: 3**
Students will learn various financing options and techniques to acquire funds to start and grow their ventures through traditional financing, angel investors, venture capital, and government programs. Students will produce a financial plan geared at obtaining funding for their concept and learn the tools necessary for the strategic analysis and understanding of financial information. Prerequisites: FIN 310 and ENTR 338.

**ENTR 483 - Small Business Consulting Credits: 3**
This course is a consulting program whereby students, working under faculty guidance, assist businesses by researching and developing possible solutions to specific problems involved in business start-up and expansion.

**ENTR 485 - Entrepreneurial Studies Capstone Credits: 3**
Students will complete and fine tune their business plan and learn how to effectively present their business plan. By this time the students will be accumulating resources and have determined potential financing for the business. Upon completion of the course, students will have an investment-ready business plan and be prepared to present their plan to financers and/or investors. Prerequisites: ENTR 338. Notes: Senior standing.

**ENTR 489 - Business Plan Writing and Competition (COM) Credits: 1**
Students will write a business plan and present it to a panel of faculty and business community members. The top three business plan presenters will move on to a statewide competition. Cross-Listed: BADM 489.

**ENTR 491 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**ENTR 492-592 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**ENTR 494 - Internship (COM) Credits: 3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**ENTR 792 - Topics (COM) Credits: 1-3**

## EPSY (Educational Psychology)

**EPSY 201 - The Science of Learning Credits: 3**
Introduction to neural and cognitive development in children (from birth to age 18) including theories and methods used to study neural and cognitive development. Specific domains of development including memory, attention, acquisition of academic skills, emotion regulation, motivation, and reward functions will be addressed. Ways to apply a neural and cognitive developmental approach to the science of teaching and learning.

**EPSY 302 - Educational Psychology (COM) Credits: 3**
A comprehensive study of the fundamental psychological facts, principles and theories that apply to the nature of the learner and the learning process.

**EPSY 723 - Adolescent Psychology Credits: 3**

**EPSY 740 - Advanced Educational Psychology Credits: 3**

## ESL (English As a Second Language)

**ESL 190 - Seminar (COM) Credits: 1-6**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. A seminar may occur over electronic media such as the Internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**ESL 191 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

## ET (Electronics Technology)

**ET 122-122L - Introductory Circuits and Lab Credits: 2, 2**
The course provides a foundation in the theory and operation of semiconductor devices including solid-state diodes, bipolar junction and field effect transistors and other components related to discrete active circuits. Troubleshooting, schematic interpretation, and measurement techniques will be covered. Prerequisites: ET 118-118L or equivalent. Corequisites: ET 122L-ET 122.

**ET 210-210L - Introduction to Electronic Systems Credits: 4**
Introduction to electronic systems and circuits. Direct current and alternating current circuits including Ohm's law and Kirchhoff's laws. Measurement and characterization of electronic systems at the block diagram level. Introduction to semiconductors, including diodes, BJTs and MOSFETs. Introduction to digital circuitry, including basic logic gates. Laboratory practice includes the proper use of standard test instruments in troubleshooting. A study in the operation of active devices and their applications. Troubleshooting methods, measurement techniques, introductory circuit board design and soldering fundamentals are also explored. Prerequisites: MATH 114. Corequisites: ET 210L-210.

**ET 220-220L - Analog Electronics and Lab Credits: 4**
Introduction to analog circuits, including amplifiers, oscillators, and filters, using diodes, bipolar transistors, field-effect transistors, and operational amplifiers. Laboratory practice includes analog circuit measurement techniques and troubleshooting techniques. Prerequisites: ET 210. Corequisites: ET 320L-320.

**ET 225-225L - Analog Devices II and Lab Credits: 2, 1**
Study and testing of differential amplifiers, operational amplifiers, regulators, multipliers, and active filters; discrete and integrated circuitry for linear and power amplifiers; audio, IF, and RF systems.

**ET 230-230L - Introductory Digital and Lab Credits: 4**
Binary and hexadecimal number systems, switching theory, Boolean Algebra, logic diagrams, Karnaugh mapping, counter circuits, and pulse circuits. Prerequisites: ET 210. Corequisites: ET 230L-230.

**ET 232-232L - Digital Electronics and Microprocessors and Lab Credits: 3**
Development of digital logic and circuit building blocks, number systems, Boolean algebra, combinational and sequential logic, and integrated logic families. Introduction to the architecture, programming, application and troubleshooting of programmable logic device (PLD) electronic systems, including VHDL programming. Exploration of the basic architecture of microprocessors and applications. Laboratory practice includes digital circuit measurement and troubleshooting techniques. Laboratory to accompany ET 232. Prerequisites: ET 210-210L. Corequisites: ET 232L-232.

**ET 240 - Techniques of Servicing Credits: 3**
Analysis and application of service techniques for a variety of electronic circuits. Circuit troubleshooting is performed in lab with bench test equipment and simulation. Prerequisites: ET 210-210L.

**ET 245-245L - Digital Devices II and Lab Credits: 2, 1**
Study and testing of electronic devices and digital circuits; gates and Boolean algebra, flip flops, registers, counters and memories; microprocessors, converters, and logic chips. Device specification and small system design.

**ET 253-253L - Automation, Controls and PLCs and Lab Credits: 2, 1**
Automation technology used in industry: PLC devices, motion controls, power monitoring, sensors, and vision systems; set up, programming, and troubleshooting.

**ET 291 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**ET 292 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ET 297 - Cooperative Education (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**ET 325-325L - Advanced Analog Electronics and Lab Credits: 4**
Active devices and their applications. Detailed analysis of power supplies, audio amplifiers, and phase-locked loops. Emphasis on test system design & practice. Lab practice includes measurement, troubleshooting, and fabrication. Prerequisites: ET 220-220L.

**ET 330-330L - Microcontrollers and Networks and Lab Credits: 3**
Introduction to the architecture, programming, application and troubleshooting of single-chip microcontroller electronic systems; includes programming in microcontroller-specific BASIC language; interface of the microcontroller for practical applications, measurement techniques and instrumentation; network components: hardware, software, protocols (TCP/IP), topologies, and cabling. Laboratory practice includes the use of in-circuit emulation, personal computer hardware and software installation and troubleshooting techniques. Prerequisites: ET 210-210L and ET 232-232L. Corequisites: ET 330L-330.

**ET 332-332L - Advanced Digital Electronics and Lab Credits: 3**
Advanced digital logic at a component and systems level, using VHDL programming. Memory mapping and state machine operations. Differentiation of logic family device specifications and small system design. Prerequisites: ET 232.

**ET 345-345L - Power Systems and Lab Credits: 3**
Basics of electrical power and wiring, including panel board, conductor and over-current protection sizing, 3-phase power, grounding, commercial and industrial power systems installation, and power monitoring and reporting. Current National Electric Code will be reviewed. Prerequisites: ET 220-220L.

**ET 370-370L - Data Acquisition and Lab Credits: 3**
Hardware and software used in data acquisition systems. Instrumentation, application testing, sensor interfaces, automated control systems and fault detection will be covered. Prerequisites: Instructor consent. Corequisites: ET 370L-370.

**ET 380-380L - Circuit Boards and Design and Lab Credits: 3**
A course to acquaint the student with procedures used to prototype and construct circuits used in electronics manufacturing. Topics include pre-fabrication planning, component specification, printed circuit board layout and production, customer interfacing, assembly and soldering, and final test procedures. State-of-the-art circuit board layout software will be used in the design of an electronics circuit project. Project management techniques introduced. Prerequisites: ET 220-220L. Corequisites: ET 380L-380.

**ET 426-426L - Communication Systems and Lab Credits: 3**
Study of transmitter and receiver circuits. Principles of modulation and demodulation are investigated. Basic fiber optics are discussed. Basic telephone circuits, both analog and digital are studied. Prerequisites: ET 220-220L. Corequisites: ET 426L-426.

**ET 451-451L - Industrial Controls and PLCs and Lab Credits: 3**
The course is designed to provide students with the fundamentals of industrial control systems, control system classifications and control operations including programmable logic controllers, process control and common detection sensors, motion control systems, and motors and motor drive systems. Laboratory to accompany ET 451. Prerequisites: ET 210. Corequisites: ET 451L-451.

**ET 471 - Capstone Experience Credits: 2**
Technical projects developed in Project Management are completed. Student teams present results in a public venue. Prerequisites: OM 470 or GE 469. Cross-Listed: OM 471.

**ET 472-472L - Networking I and Lab Credits: 4**
The study of personal computer systems, concentrating on Intel-type personal computers, networking and data connections from a software and management point of view. Microsoft NT and Novell are explored. Prerequisites: ET 370. Corequisites: ET 472L-472.

**ET 490 - Seminar (COM) Credits: 1**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students.

**ET 491 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**ET 492 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ET 497 - Cooperative Education (COM) Credits: 1-8**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

## EURO (European Studies)

**EURS 301 - Topics in European Society Credits: 3**
An interdisciplinary examination of a topic in European social life. Examples include, among others, Ethnicity and Nationality, Aging, Revolution, European Unification, Political Parties and Economic Development, or Migrant Workers. Notes: May be repeated for credit when the topic is different.

## EXCH (Exchange Programs)

**EXCH 489-589 - Student Exchange - International (COM) Credits: 0-18**
This course allows students to register as full- time students while taking part in an Exchange Program. Students will register on their home campus for the number of credit hours they intend to take while enrolled at another campus.

**EXPL 478 - Student Exchange - Domestic Credits: 0-18**
Students enroll in coursework from approved consortia or tuition reciprocity agreements enabling them to benefit from richer, more specialized, and relevant course and program options. This course tracks enrollment, allows students to retain an active status, and qualifies them for financial aid at SDSU.

## EXPL (Experiential Learning)

**EXPL 280 - Introduction to Experiential Learning and Electronic Portfolio Development Credits: 1**
This course is an introduction to the Experiential Learning certificate program and provides an overview of electronic portfolio development. Students will demonstrate comprehension and appreciation for the learning that occurs in the course of academic, person, and career activities. Students will learn to evaluate knowledge, skill, and professional experience; select; categorize; and document their achievements and accomplishments for review as part of the development of a comprehensive electronic portfolio.

**EXPL 291 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**EXPL 292 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**EXPL 384 - National Student Exchange (COM) Credits: 0-16**
Qualified students enroll in an exchange with an NSE member school to enhance and expand their academic horizons and meet personal needs and interests. Students attend courses for a semester or a year, choosing classes that complement or supplement their majors at their home institution.

**EXPL 487-587 - Study Abroad (COM) Credits: 0-18**
The goal of the course is to track student enrollment in a study abroad experience as well as to award credit for the time and effort necessary in the preparation, culture-learning, and re-entry processes of study abroad.

**EXPL 491 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

## EXS (Exercise Science)

**EXS 350 - Exercise Physiology (COM) Credits: 2-3**
Study of physiological responses and adaptations to exercise related to human performance limitations, training effects, and health-related benefits. Prerequisites: EXS 250 or PE 250 or BIOL 221 or PHGY 220 or HSC 280.

**EXS 354-354L - Prevention and Care of Athletic Injuries and Lab (COM) Credits: 2**
Course teaches general and emergency treatment of athletic injuries, competitive or noncompetitive. Emphasis is placed on practical preventive and rehabilitative exercises and taping/bandaging/wrapping. Lab accompanies EXS 354. Corequisites: EXS 354L-354. Cross-Listed: PE 354-354L.

**EXS 367-367L - Health and Human Performance and Lab Credits: 3**
This course is designed to apply the concepts of exercise physiology for health, fitness and athletic performance. The course will give special emphasis to principles specific to resistance training and program design using a variety of methods for various populations. Lab to accompany EXS 367. Prerequisites: EXS/PE 350. Corequisites: EXS 367L-367.

**EXS 380 - Professional Development Credits: 1**
This course is designed to enhance the student's networking skills and communication skills through projects geared towards professional development and career management. In addition, interprofessional and productive teamwork will be discussed.

**EXS 396 - Field Experience (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**EXS 397 - Cooperative Education (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**EXS 400-400L - Exercise Test and Prescription and Lab (COM) Credits: 3**
This course is designed to provide the student with the knowledge, skills, and abilities to assess different areas of physical fitness and prescribe individual exercise programs based on these objective measures. This course will provide hands-on experience in the laboratory to supplement the theoretical classroom discussion in PE 400 and will prepare the student to take entry-level certification such as the American College of Sports Medicine Health and Fitness Instructor Certification. Prerequisites: EXS 350/KSM 350/PE 350 or concurrent. Corequisites: EXS 400L-400.

**EXS 420-420L - Group Exercise and Facility Management and Lab Credits: 2**
Students will be introduced to the knowledge, skill and ability necessary to manage a fitness facility. This course will prepare students to sit for the ACSM Group Exercise Certification. Lab to accompany EXS 420. Prerequisites: EXS 400-400L. Corequisites: EXS 420L-420.

**EXS 450-550 - Clinical Exercise Physiology Credits: 3**
This course is designed to provide the clinical exercise physiology student with assessment and prescription techniques appropriate to special populations. Prerequisites: EXS/PE 350.

**EXS 454-454L - Biomechanics and Lab (COM) Credits: 3**
This course emphasizes the mechanical principles of human movement (including muscular and skeletal principles) during physical education, wellness, and sport. This laboratory course is designed to facilitate hands-on application of the major biomechanical principles discussed in EXS 454. Students will gain experience with various instrumentation and methodology techniques used in biomechanics laboratories and other career settings. Prerequisites: EXS 250 or PE 250 or EXS 353 or PE 353 or KSM 353 or BIOL 221 or PHGY 220 or HSC 280. Corequisites: EXS 454L-454.

**EXS 455-555 - ECG and Clinical Stress Testing Credits: 3**
This course is designed to fill the needs of students who desire the ability to interpret the normal and abnormal, resting and exercise ECG, as well as provide opportunities to learn and practice the basic components of maximal stress testing during a variety of exercise conditions. Since clinical stress testing and ECG interpretation is a vital component of the laboratory skills needed by today's exercise physiologist, emphasis in this course will be focused on understanding and interpreting ECG tracings and related pathophysiology, preparation of the exercise 12-lead ECG, and interpretation of maximal stress test results regarding exercise tolerance for various clinical populations and comparing them to normal individuals. In addition, an overview of other diagnostic procedures that involve the use of exercise will be given. Prerequisites: Instructor consent.

**EXS 480 - Certification Exam Preparation Credits: 1**
This course will review content in preparation for a national certification examination. This course will also discuss the logistics of how to register for the exam, submit exam results, and maintain certification through continuing education.

**EXS 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**EXS 496 - Field Experience (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**EXS 745 - Applied Biomechanics Credits: 3**

**EXS 750 - Advanced Exercise Physiology Credits: 3**

**EXS 751 - Laboratory Techniques in Exercise Physiology (COM) Credits: 3**

**EXS 755 - Applied Exercise Physiology Credits: 3**

**EXS 792 - Topics (COM) Credits: 1-6**

## FCSE (Family & Consumer Sciences Education)

**FCSE 292 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**FCSE 295 - Practicum (COM) Credits: 1**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**FCSE 332 - Housing in Family & Consumer Sciences Education Credits: 3**
The course will examine current, relevant issues in the area of housing, as well as instructional strategies for teaching housing at the high school level. Topics include: housing styles, housing options, legal & financial aspects of housing, historical styles, elements and principles of design, resource management related to housing.

**FCSE 405 - Philosophy of Career and Technical Education Credits: 2**
Overview of career and technical education, including history and role and purpose in schools, communities and society; organization and characteristics of instructional programs at secondary, post-secondary and adult levels; career education; funding; and current trends and issues in career and technical education. Prerequisites: Sophomore status in education program. Corequisites: FCSE 295. Cross-Listed: AGED 405. Notes: For prospective teachers in agriculture or family and consumer sciences education.

**FCSE 411 - Philosophy and Methods Family and Consumer Sciences Credits: 4**
The philosophical foundations and history of vocational family and consumer sciences programs in school systems. The learner and the constructivist learning process, curriculum development, and program planning, methods of instruction, selection and use of resource materials, and the educator's role will be studied in depth as preparation for the student teaching experience. Must be taken in semester immediately preceding FCSE 412. P, 2.5 GPA.

**FCSE 412-412L - Preparation for Student Teaching in FSCE and Lab Credits: 4**
Planning and developing instruction to meet the needs of selected age groups in formal and informal settings. Classroom/laboratory management, integration of core academics into career and technical education, assessment, advisement of student organizations, professional issues, and current topics in education will be addressed in preparation for a career in an educational setting. Prerequisites: Senior Standing, AGED/FCSE 295, AGED/FCSE 405, AGED 404-404L, EPSY 302, EDFN 475, SEED 314, and SEED 450. Corequisites: FCSE 412L-412. Cross-Listed: AGED 412-412L.

**FCSE 421 - Adult Education Credits: 3**
Theories, strategies and trends related to working with diverse adult audiences within the context of family and consumer sciences. Experience in working with adults will be included. Open to all majors.

**FCSE 431-531 - Work Based Learning Credits: 2**
Strategies for developing curriculum and designing methods of instruction for teaching employability skills, career decision making and occupational areas of family and consumer sciences. A field experience will be included. Cross-Listed: AGED 431-531.

**FCSE 488 - 7-12 Student Teaching FCSE Credits: 1-6**
An experiential application of teaching pedagogy and content in family and consumer sciences education under the supervision of a certified teacher in an approved program. Prerequisites: Admittance into the Teacher Education Program and PS III, Senior Class Standing, and FCSE 412.

**FCSE 491-591 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**FCSE 494 - Internship (COM) Credits: 1-12**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**FCSE 592 - Topics (COM) Credits: 1-3**

**FCSE 595 - Practicum (COM) Credits: 1-3**

**FCSE 611 - History and Philosophy of Family and Consumer Sciences Credits: 3**

**FCSE 673 - Supervised Student Teaching in Family and Consumer Sciences Education Credits: 6-9**

**FCSE 721 - Occupational Programs in Family and Consumer Sciences Credits: 3**

**FCSE 741 - Supervision of Family and Consumer Sciences Education Credits: 2**

**FCSE 751 - Curriculum of Family and Consumer Sciences Education Credits: 3**

**FCSE 761 - Advanced Methods and Assessment in Family and Consumer Sciences Education Credits: 3**

**FCSE 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**FCSE 792 - Topics (COM) Credits: 1-3**

**FCSE 798 - Thesis (COM) Credits: 1-7**

## FIN (Finance)

**FIN 280 - Personal Finance (COM) Credits: 3**
This course is a survey of individual investment opportunities. Topics include common and preferred stocks and corporate bonds, auto, life, and health insurance, home ownership, and will and estate planning. Cross-Listed: BADM 280.

**FIN 310 - Business Finance (COM) Credits: 3**
Business finance is an overview of financial theory including the time value of money, capital budgeting, capital structure theory, dividend policies, asset pricing, risk and return, the efficient markets hypothesis, bond and stock valuation, business performance evaluation and other financial topics. Prerequisites: ACCT 211. Cross-Listed: BADM 310.

**FIN 411-511 - Investments (COM) Credits: 3**
This course is a thorough study of the equity market including fundamental valuation techniques, asset allocation, the efficient markets hypothesis and its implications, portfolio theory, risk and return, the primary and secondary market mechanisms, security market indicators, and international investing. An overview of the bond market including bond valuation, duration, and bond portfolio management, and an introduction to options, futures, and forward contracts are provided. The vital roles of computer technology and electronic trading are also explored. Prerequisites: BADM/FIN 310. Cross-Listed: BADM 411-511.

**FIN 412 - Security Analysis (COM) Credits: 2-3**
Security Analysis is a thorough study of portfolio management for individual as well as institutional investors and includes both equity and fixed income analysis. Security valuation and analysis are discussed as well as the topics of asset allocation, efficient diversification, portfolio theory and construction, investment policy, and performance evaluation. The vital roles of computer technology and electronic trading are also explored. Prerequisites: BADM/FIN 411. Cross-Listed: BADM 412.

**FIN 413-513 - Advanced Corporate Finance (COM) Credits: 3**
This course utilizes a combination of cases and theory in studying the investment, financing and dividend decisions of the firm. The emphasis is on long-term debt and equity financing as well as managing financial risk. Prerequisites: BADM/FIN 310. Cross-Listed: BADM 413.

**FIN 416 - Commercial Bank Management (COM) Credits: 3**
This course is an in-depth study of banking institutions, with special emphasis on commercial banks and their connection to the federal reserve system and other financial institutions. A risk management perspective is adopted, and the fast changing global regulatory and financial environments are discussed. Prerequisites: BADM/FIN 310 or AGEC 478. Cross-Listed: BADM 416.

**FIN 417-517 - International Finance (COM) Credits: 3**
International Finance explores the principles of financial management from an international perspective. Background material on foreign exchange markets and risk is provided, and the theory of foreign exchange markets is discussed. Emphasis is placed on corporate finance for international firms. Both direct and indirect investment as well as financing decisions for multinational corporations are covered. Prerequisites: BADM/FIN 310.

**FIN 420-520 - Student Managed Investment Fund Credits: 3**
This course involves hands-on experiential learning of real money management. Students will actively participate in all aspects of security analysis and portfolio management, including understanding investment ethics, generation of trading ideas, investment analysis, asset valuation and allocation, trading of financial securities, and performance report.

**FIN 490-590 - Seminar (COM) Credits: 3**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students.

**FIN 491-591 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**FIN 492-592 - Topics (COM) Credits: 1-4**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**FIN 494-594 - Internship (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**FIN 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**FIN 596 - Field Experience (COM) Credits: 1-3**

**FIN 740 - Investment Science Credits: 3**

**FIN 753 - Financial Management Credits: 3**

**FIN 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**FIN 792 - Topics (COM) Credits: 1-4**

## FREN (French)

**FREN 101 - Introductory French I (COM) [SGR #4] Credits: 4**
Fundamentals of language structure and introduction to French culture enabling students to converse, read, and write simple French. Class work may be supplemented with required aural/oral practice outside of class. Notes: Course meets SGR #4.

**FREN 102 - Introductory French II (COM) [SGR #4] Credits: 4**
Fundamentals of language structure and introduction to French culture enabling students to converse, read, and write simple French. Class work may be supplemented with required aural/oral practice outside of class. Prerequisites: FREN 101. Notes: Course meets SGR #4.

**FREN 201 - Intermediate French I (COM) [SGR #4] Credits: 3**
Goals of the introductory course continued. Emphasis on cultural and intellectual aspects of French life and literature. Class work may be supplemented with required aural/oral practice outside of class. Prerequisites: FREN 102. Notes: Course meets SGR #4.

**FREN 202 - Intermediate French II (COM) [SGR #4] Credits: 3**
Continues FREN 201. Laboratory as required. Prerequisites: FREN 201. Notes: Course meets SGR #4.

**FREN 211 - Intermediate Oral Practice I Credits: 2-3**
Intensive conversational work to develop interpersonal, interpretive, and presentational modes of communication in French. Prerequisites: FREN 102 and FREN 201 (completed or concurrent). Notes: May be taken concurrently with French 201 or with another course above 201.

**FREN 292 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**FREN 296 - Field Experience (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**FREN 302 - Translating French (COM) Credits: 3**
This course provides experience in translation from French into English. Initial focus on specific structural, lexical, and grammatical issues that pose problems, followed by units covering literary and technical translation. Experience using online dictionaries, reference works, forums, and how to approach difficult passages and translation problems. Introduction to professional translation tools. Prerequisites: FREN 202.

**FREN 310 - French Language Skills (COM) Credits: 3**
A video and computer-assisted, advanced level course designed to strengthen and expand oral comprehension, conversation and composition within the context of contemporary French culture. Prerequisites: FREN 202.

**FREN 333 - Topics in Francophone Culture (COM) Credits: 3**
Overview of the historical events in Francophone civilizations as they relate to contemporary culture. Second semester emphasizes contemporary Francophone culture and civilization Prerequisites: FREN 202.

**FREN 350 - Business Communications in French (COM) Credits: 3**
An introduction to the language of business and business practices in French-speaking countries. Included are commercial terminology, business forms, office correspondence and the common expressions used in a business setting. Prerequisites: FREN 202.

**FREN 353 - Exploring Literature in French (COM) Credits: 3**
Study of literary texts from throughout the French-speaking world. Prerequisites: FREN 202.

**FREN 385 - Travel Study Abroad Francophone (COM) Credits: 1-6**
Offered to students engaged in an approved program of studies under faculty supervision. Hours of credit as contracted with instructor and approved by the cooperating institutions.

**FREN 392 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**FREN 433 - French Culture and Civilization Credits: 3**
This class will cover how French culture has developed throughout history, specifically in France, and will explore geography, history, politics and art. Students will investigate the many cultural influences that have impacted present-day France, and they will be required to do extensive independent research and writing. Prerequisites: FREN 310 or instructor's consent.

**FREN 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**FREN 492 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**FREN 494 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**FREN 496 - Field Experience (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

## FS (Food Science)

**FS 101 - Introduction to Food Science Credits: 3**
This is a survey course for the field of food science. Topics include fundamental food science principles, the food industry, the food science professional, and contemporary issues. Notes: Spring.

**FS 251 - Food Safety and Quality Management Systems Credits: 3**
Fundamentals of management systems for food safety and quality and introduction to legal and regulatory principles for food safety and quality. Management systems including Good Manufacturing Practices (GMP), Statistical Quality Control (SQC), Hazard Analysis Critical Control Points (HACCP), and International Standard Organization (ISO) 22000 will be discussed. The management systems monitoring and maintaining the safety and quality of the food products will be emphasized. Notes: Fall.

**FS 341-341L - Applied Food Science and Lab Credits: 4**
Study of physical and chemical factors affecting food quality and safety, including the effects of food processing and preparation methods. Students will become familiar with techniques in sensory evaluation and basic principles of food analysis. Prerequisites: FS 101; CHEM 108, CHEM 120 or CHEM 326. Corequisites: FS 341L-341. Notes: Even Fall.

**FS 351-351L - Principles of Food Processing and Lab Credits: 3**
Study of physical/chemical principles and approaches used in heat processing, freezing, dehydration, and fermentation of foods. Current processing methods will be considered in terms of preparation, processing, packaging, and quality control of food products. Prerequisites: FS 251 and CHEM 106 or CHEM 114. Corequisites: FS 351L-351. Notes: Odd Fall.

**FS 400-400L/500-500L - Food Chemistry and Analysis and Lab Credits: 5**
A study of the chemical properties of basic food constituents and chemical changes occurring during storage and processing of foods. Principles and techniques of physical and chemical analysis of food products. Proximate analysis of moisture, protein, lipid, and carbohydrates and chemical or instrumental analysis of vitamins, minerals and food additives. Prerequisites: FS 101 and (CHEM 108-108L or CHEM 326-326L). Notes: Fall.

**FS 451-451L/551-551L - New Food Product Development and Lab Credits: 4**
This course is designed as a capstone course for undergraduate Food Science students and an introductory course for graduate students in food-related majors. The principles and technologies of food storage, process and packaging will be discussed in depth. Emphasis will be placed in the development of new food products. Prerequisites: FS 351-351L and MICR 311. Corequisites: FS 451L-451L/551L-551. Notes: Even Spring.

**FS 491 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**FS 492 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**FS 494 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**FS 495 - Practicum (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**FS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-6**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**FS 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**FS 791 - Seminar (COM) Credits: 1-3**

**FS 792 - Topics (COM) Credits: 1-3**

**FS 798 - Thesis (COM) Credits: 1-7**

**FS 898D - Dissertation (COM) Credits: 1-12**

## FSRM (Fashion Studies & Retail Merchandising)

**FSRM 172 - Introduction to Apparel Merchandising Credits: 2**
Introduction to basic concepts for success as an apparel merchandising major. Topics include mass media, research, teams, and careers in apparel merchandising.

**FSRM 231-231L - Ready-To-Wear Analysis and Lab Credits: 3**
Analysis of construction, fabric, fit, defects, and pricing of ready-to-wear. Product knowledge, including garment classifications. Examination of consumer attitudes toward product quality. Corequisites: FSRM 231L-231.

**FSRM 242-242L - Textiles I and Lab Credits: 3**
An investigation of fiber, yarn, fabrication, finishes and their interrelationship to specific end use and consumer satisfaction. Prerequisites: Sophomore standing. Corequisites: FSRM 242L-242.

**FSRM 253 - Socio-Psychological Aspects of Dress Credits: 3**
Examination of clothing behavior from sociological, psychological and cultural perspectives. Cross-Listed: WMST 253.

**FSRM 274-274L - Fashion Promotion and Lab Credits: 3**
Principles in the promotion of merchandise to varied consumer groups by all segments of the fashion industry. Study of the techniques used for fashion promotion. Experience in planning, execution, installation and evaluation of advertisements, displays, and special events. Corequisites: FSRM 274L-274.

**FSRM 282 - Customer Service Credits: 3**
Examination and application of customer service as a tool for business to develop positive interactions with current and potential customers. Discussion of customer service as an integral tool in customer relationship management. Cross-Listed: CS 282.

**FSRM 315-315L - Apparel Design and Lab Credits: 3**
Course develops aesthetic judgment and design literacy of students. Fashion design for various levels of the industry including protective and functional clothing markets are studied. Prerequisites: FSRM 172. Corequisites: FSRM 315L-315.

**FSRM 352 - History of Dress in the Western World Credits: 3**
Development of styles of dress from ancient times; social significance, symbolic meaning, and functions are investigated. The Snellman Hsia Collection serves as primary source material.

**FSRM 361-361L - Aesthetics and Lab Credits: 3**
The study of aesthetics as it adds pleasure to our surroundings. Investigation of event design, store design, and product design that offer a multidimensional and unified brand experience. Applications of the elements and principles of design to a wide range of disciplines. Laboratory course to accompany FSRM 361. Corequisites: FSRM 361L-361.

**FSRM 372-372L - Trending and Buying and Lab Credits: 3**
Analysis of trends for the purpose of forecasting merchandise procurement. Development of merchandise lines within the forecast model. Study the buying process. Prerequisites: FSRM 253. Corequisites: FSRM 372L-372.

**FSRM 381 - Professional Behavior at Work Credits: 3**
Social skills and professional conduct in a global workplace. Emphasis will be on interpersonal communication and cross-cultural interactions appropriate in the work environment. Cross-Listed: CS 381.

**FSRM 462 - Retail Management Credits: 3**
Examine and analyze the development and strategies of the continually changing structures within the retail community considering career opportunities, consumer demand and the competitive nature of retailing within the global economy.

**FSRM 472-472L - Merchandising and Lab Credits: 3**
Analysis of merchandising and marketing strategies for business profitability, sustainability and success. Emphasis on long term forecasting and planning; exploration of computer applications. Prerequisites: FSRM 372-372L and MATH 114. Corequisites: FSRM 472L-472.

**FSRM 473-473L - Global Sourcing and Lab Credits: 3**
Examine the process of globalization within the fiber, textile, apparel and retail (FTAR) complex. Analyze size, scope and components. Consider the role politics and social responsibilities have within global trading regions and the FTAR complex. Develop computer skills in sourcing. Prerequisites: FSRM 372-372L. Corequisites: FSRM 473L-473.

**FSRM 477 - Current Issues in the Workplace Credits: 1**
Discussion of professional practices and current issues in the workplace.

**FSRM 480 - Travel Studies Credits: 1-5**
This travel-study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators at other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.

**FSRM 490 - Seminar (COM) Credits: 3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students. Prerequisites: FSRM 495.

**FSRM 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**FSRM 492 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**FSRM 495 - Practicum (COM) Credits: 3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses. Prerequisites: CS 377, FSRM 462, and FSRM 477; 2.2 GPA required.

## GDES (Graphic Design)

**GDES 101 - Computer Graphics Credits: 3**
A non-programming introduction to drawing, photo-imaging and page layout design software emphasizing computer-generated design projects.

**GDES 201 - Graphic Design Credits: 3**
An introduction to graphic design history, theory, research, and practice. Corequisites: GDES 216.

**GDES 203 - Animation Foundations I Credits: 3**
This studio course focuses on principles of creating animation and sequential imagery that include a wide variety of time-based practices such as traditional cel-style animation, human-figurative work, stop-motion, cut-out, camera-less, pixilation, image capture and editing. Corequisites: ART 111.

**GDES 207 - Interactive Design I Credits: 3**
A study of user-centered design principles, focusing on constructing static websites using HTML and CSS. Prerequisites: C or better in GDES 216.

**GDES 209 - Design Research Credits: 3**
This course introduces and explores concepts of design research to influence design practice. Students will learn to observe users, analyze and synthesize findings, use these findings to inform their work, and execute design work based on this observation, analysis, and synthesis. Prerequisites: C or better in GDES 101.

**GDES 216 - Typography Credits: 3**
An introduction to typographic history, theory and practice. Emphasis on historical and contemporary typographic usage; hand and computer-generated projects. Prerequisites: C or better in GDES 101.

**GDES 217 - Typography II Credits: 3**
A continuation of Typography I. Students will explore a variety of functional, expressive, and formal typographic issues. Prerequisites: GDES 216. Corequisites: GDES 207.

**GDES 292 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**GDES 303 - Animation Foundations II Credits: 3**
This studio course expands on principles of creating animation and sequential imagery to include a wide variety of approaches that include character and concept development, narrative and non-narrative structure, audio design, image capture, advanced compositing and digital ink and paint. Prerequisites: GDES 203 or equivalent, ART 112 or concurrent enrollment.

**GDES 304 - Motion Graphics Credits: 3**
This course explores the moving image as an information communication tool. The course also emphasizes overall time-based communication and a conventions for the creation of graphics and motion elements for broadcast over a variety of media outlets. Prerequisites: C or better in GDES 203.

**GDES 307 - Interactive Design II Credits: 3**
Continuation of Interactive Design I. The application of design principles to develop web user interfaces. Includes analysis of informational content, context, target audience, usability testing. Prerequisites: C or better in GDES 207.

**GDES 310 - Branding Strategy and Identity Design Credits: 3**
Study in the development of corporate brand and visual identity systems. Prerequisites: C or better in GDES 216.

**GDES 312 - Sustainable Package Design Credits: 3**
A studio course that explores sustainable packaging design strategies and practices with special focus on environmentally, socially and economically friendly design products. Prerequisites: C or better in GDES 310.

**GDES 401 - Professional Studio Practice Credits: 3**
A course focusing on transition into professional practice by providing opportunity to create design solutions for clients. Prerequisites: C or better in GDES 310.

**GDES 402 - Portfolio Design Credits: 3**
A course focusing on the creation a design portfolio, the practice interview techniques, and survey of employment markets and opportunities. The course will culminate in a senior exhibition. Prerequisites: C or better in GDES 310.

**GDES 403 - Intermediate Animation Credits: 3**
The studio course develops and expands practices in cel-style animation, stressing digitally drawn techniques and increases the study of time-based theory and contemporary applications. Using digital methods of image creation and capture, compositing and editing, students produce an original short animation from concept to completion. Prerequisites: GDES 303, ART 112, ART 122 and ART 211. Notes: Course can be repeated for additional credit.

**GDES 404 - Capstone Credits: 3**
A capstone course for graphic design students to demonstrate design knowledge and achieve mastery working on individualized projects. Prerequisites: GDES 401 or ART 494. Corequisites: GDES 402.

**GDES 407 - Interactive Design III Credits: 3**
Advanced topics in web and interactive graphic design. Prerequisites: C or better in GDES 307.

**GDES 410 - Data Visualization Design Credits: 3**
A design studio course that explores an introduction to the methods, tools, and processes involved in creating information graphics for digital and physical platforms from complex data. Prerequisites: C or better in GDES 310.

**GDES 415 - Publication Design Credits: 3**
A study of the theory, practice, and use of relevant technologies for designing both print and digital publications. Prerequisites: C or better in GDES 310.

**GDES 417 - UX and UI Design Credits: 3**
A design studio course that explores the user interface design process and the industry-standard methods for how to approach the design of a user interface responding to users' needs in digital and physical experience. This course examines different usability heuristics methods and its effectiveness by analyzing qualitative and quantitative information.

**GDES 482 - Travel Studies Credits: 1-3**
This travel study course is designed to provide extra-mural educational experiences, as approved by, and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hand-on activities, and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation and a written report and/or exhibition or portfolio of art/design work.

**GDES 494 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

## GE (General Engineering)

**GE 101 - Introduction to Engineering and Technical Professions Credits: 1**
Introduction to the professional disciplines in the college of engineering. Topics include engineering problem solving, success strategies, tools and resources, ethics, and overview of professional careers.

**GE 121 - Engineering Design Graphics I Credits: 1**
A course in graphical communication, expression and interpretation. Covers visualization in three dimensions through a study of mechanical orthographic projection. Also includes engineering, mechanical, and architectural scales, dimensioning, auxiliary views, sectional views and software. Corequisites: One MATH course except for 021, 101, 100T.

**GE 122 - Engineering Design Graphics II Credits: 1**
This course covers basic mechanical drawing practices in engineering design graphics. Graphical conventions including but not limited to sections, auxiliaries, and dimensional layouts are also covered. Prerequisites: GE 121.

**GE 123 - Computer Aided Drawing Credits: 1**
A course with Major emphasis on 2-dimensional drafting skills and 3dimensional solid modeling utilizing microcomputer software. All work requires a "hands-on" approach. Prerequisites: GE 121.

**GE 210 - Geometric Dimensioning and Tolerancing Credits: 2**
Study and application of ANSI Y14.5M standards for GD&T as variation in part tolerances in the design of products and components for assembly; applications relative to product design, production, testing, and inspection are covered.

**GE 225 - Survey of Machine Tool Applications Credits: 1**
A survey course introducing machine tools and their applications. Automation in machining and CNC programming and operations are also topics addressed in this course.

**GE 231 - Technology, Society, and Ethics Credits: 3**
An examination of technological change by means of current problems and case studies. The creation and utilization of tools, machines, materials, techniques and technical systems will also be studied, as well as their environmental impacts.

**GE 241 - Applied Mechanics Credits: 3**
Basic statics, dynamics, and two-dimensional analysis of stress and strain. Fundamental principles of structural and machine elements. Prerequisites: MATH 120 and 1 course from PHYS.

**GE 265 - Industrial Safety Credits: 3**
Methods to recognize and prevent hazards in construction and manufacturing settings. Workplace safety fundamentals including personal protective equipment, hazardous materials handling, electrical safety, fall protection, and emergency action plans.

**GE 291 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**GE 292 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**GE 385 - Introduction to Systems Engineering and Management Credits: 3**
Introduction to the discipline of systems engineering and its intersection with engineering management. Course will cover the process of new systems development comprising concept, design, and build. Risk management, human factors, project management, integration of hardware and software, and system validation.

**GE 396 - Field Experience (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**GE 410-510 - Human Factors in Design Credits: 3**
Human factors engineering (HFE), sometimes called ergonomics, deals with optimizing working and living conditions through design for human use. This course will explore design methods to enhance the effectiveness and efficiency of work and to enhance product user's comfort, safety, health and satisfaction.

**GE 425-525 - Occupational Safety and Health Management Credits: 3**
This course covers methods to implement and manage a safe work environment. Study will address OSHA standards and other related governmental regulations, hazard recognition and control, accident cost assessment, ergonomics, and emphasis on a proactive approach to accident prevention.

**GE 469 - Project Management Credits: 3**
An overview of project management as it relates to integrated systems, product/project life cycle, and organizational change. Defining, estimating, scheduling, risk management, and project team leadership issues will be covered as they relate to projects. Prerequisites: Instructor consent.

**GE 491-591 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**GE 492-592 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**GE 494 - Internship (COM) Credits: 1-3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**GE 569 - Project Management Credits: 2-3**

**GE 667 - Decision Theory Credits: 3**

**GE 685 - Management and Leadership in Technical Organizations Credits: 3**

**GE 690 - Seminar (COM) Credits: 1-3**

**GE 691 - Independent Study (COM) Credits: 1-3**

**GE 692 - Topics (COM) Credits: 1-3**

**GE 696 - Field Experience (COM) Credits: 1-6**

**GE 750 - Capstone Credits: 1**

**GE 788 - Master's Research Problems/Projects (COM) Credits: 1-2**

**GE 798 - Thesis (COM) Credits: 1-7**

## GEOG (Geography)

**GEOG 101 - Introduction to Geography (COM) [SGR #3] Credits: 3**
The course presents a broad, introductory overview of geographic concepts, themes, and elements designed to help students better understand and analyze the world from a geographic perspective. It provides a background to Earth's physical and human elements and systems. It also emphasizes the unique quality of world regions, and the spatial interaction of people, elements, and regions, as well as major global and regional problems and prospects. Notes: Course meets SGR #3.

**GEOG 111 - Sustainable Society (COM) [SGR #3] Credits: 3**
An introduction to sustainability that assesses how human population, affluence, privilege, environmental justice, and sustainable development are aspects of sustainability. Notes: Course meets SGR #3.

**GEOG 131-131L - Physical Geography: Weather and Climate and Lab (COM) [SGR #6] Credits: 4**
An introduction to the physical patterns of the Earth focusing on location, Earth-sun relationships, portrayal of the Earth, cartographic analysis, and weather and climate phenomena. Corequisites: GEOG 131L-131. Notes: Course meets SGR #6.

**GEOG 132-132L - Physical Geography: Natural Landscapes and Lab (COM) [SGR #6] Credits: 4**
An introduction to Earth's natural landscapes; focusing on landforms as spatial features and their processes plus consideration of human-environmental interactions. Corequisites: GEOG 132L-132. Notes: Course meets SGR #6.

**GEOG 150 - Environmental Disasters and Human Hazards Credits: 3**
A general survey of scientific principles that explain various natural disasters (e.g., earthquakes, volcanic eruptions, hurricanes, tornadoes, and floods) and human-influenced events (dam failures and nuclear accidents). Includes the study of human perceptions of and reactions to disasters and hazards.

**GEOG 200 - Introduction to Human Geography (COM) [SGR #3] Credits: 3**
Systematic study of world culture from perspective of five integrating themes: cultural region, cultural diffusion, cultural ecology, cultural integration, and cultural landscape. Topics include population, agriculture, political and economic systems, religion and language, folk and popular culture, and ethnicity. Notes: Course meets SGR #3.

**GEOG 210 - World Regional Geography (COM) [SGR #3] Credits: 3**
A survey of the Earth from a broad global framework through the differentiation of the world in terms of both natural and human environmental features and characteristics on a regional basis. Notes: Course meets SGR #3.

**GEOG 212 - Geography of North America (COM) [SGR #3] Credits: 3**
A regional and topical analysis of the geographic patterns of the United States and Canada. Focus is upon the interaction of groups of people with the natural environment to produce regional differentiation. Geographic aspects of the physical geography, population, culture groups, economy, settlement systems, land division, and use of natural resources. Notes: Course meets SGR #3.

**GEOG 219 - Geography of South Dakota [SGR #3] Credits: 3**
Provides an in-depth study of the physical, cultural, and economic characteristics of the state, including an analysis of past, present, and prospective cultures and economies, dating from early Native American settlement through the present time period. Notes: Course meets SGR #3.

**GEOG 270 - Introduction to Small Unmanned Aircraft Systems Credits: 3**
This course provides an overview of Unmanned Aircraft Systems (UAS). Topics include the history of UAS, regulations, remote sensors, imagery equipment, industry and societal implications, career outlook, ethical considerations, and hands-on experience with the components required to operate a small UAS. This course will prepare students for safe operation of small UAS and provide the necessary knowledge and understanding needed to apply for the Small Remote Pilot Certification under Federal Aviation Regulations Part §107.

**GEOG 290 - Seminar (COM) Credits: 1-4**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students.

**GEOG 317 - Geography of Africa Credits: 3**
This course takes a regional and thematic approach to understanding Africa's diversities, while at the same time seeking patterns and spatial interactions. The continent of Africa is composed of unique and diverse countries, with particular physical and human contexts. Emphasis is placed on Sub-Saharan Africa.

**GEOG 320 - Regional Geography: (COM) Credits: 3**
Geographic description and analysis of selected world regions. Physical and cultural conditions and landscapes, as well as their interrelationships and importance, are emphasized. Course may be repeated under different regional topics. The specific region studied will change each semester.

**GEOG 337 - Atmospheric Sciences Credits: 3**
Systematic methodological investigation of the meteorological elements (weather, climate, altitude, etc.) and their effects on geographic features.

**GEOG 339 - Geomorphology Credits: 3**
A study of the relationship of landforms and how they are impacted by human activity. Changes in land-use evolution through time and how this has impacted the landscape.

**GEOG 351 - Economic Geography Credits: 3**
World wide distribution of economic activities and their physical bases. Agriculture, mining and manufacturing industries and their important commercial products and role in world trade.

**GEOG 353 - Geography of Religion (COM) Credits: 3**
This course examines the diversity of religious practice and belief from a geographical perspective. Each offering of the course will emphasize a different region of the world, with standard areas of study being North America & Europe, Middle East & Africa, South & Central America, and South & East Asia. The course will examine specific religious traditions (Christianity, Islam, Buddhism, etc.) as they occur in a geographical region, the relationship between religion and place, and how religions change and adapt to new locales. The course may be repeated up to four times. Cross-Listed: REL 353.

**GEOG 363 - Rural Geography Credits: 3**
Character of American countryside as shaped by private and public decision-making processes. Case studies of major U.S. and European rural planning efforts to understand the present landscape and the problems of rural populations.

**GEOG 365 - Land Use and Planning Credits: 3**
Geographical patterns of United States land use and land cover, human occupancy, land tenure, and land division. Emphasis on the origin and consequences of these patterns on the environment, resource use, and land use planning.

**GEOG 372-372L - Introduction to GIS and Lab (COM) Credits: 3**
This course introduces many of the basic concepts of Geographic Information Systems (GIS) and provides an overview of the functions and capabilities of ArcGIS Desktop GIS software and an introduction to the ArcGIS Spatial Analyst extension. It will be taught primarily as a hands-on-course with supplementary lectures, demos, and discussion. Corequisites: GEOG 372L-372.

**GEOG 382-382L - Quantitative Research Methods in Geography and Lab Credits: 3**
The introduction of basic quantitative techniques and concepts for the analysis of geographic data. Focus on descriptive, inferential, and spatial statistics, emphasizing their applications in geographic research. Corequisites: GEOG 382L-382. Notes: STAT 281 recommended.

**GEOG 383-383L - Cartography and Lab Credits: 3**
History and principles of cartography. Emphasis on field mapping; map projections; cartographic design; map interpretations; and exercises in map making. Corequisites: GEOG 383L-383.

**GEOG 384-384L - Advanced Cartography and Lab Credits: 3**
This course provides advanced cartographic training techniques as applied to practical applications in field mapping, the production of map projections, cartographic design, and map making. Prerequisites: GEOG 383. Corequisites: GEOG 384L-384.

**GEOG 401-501 - Geography of Languages Credits: 3**
The world's languages examined from a geographic perspective. Emphasis placed on the five geographic themes to understand the locations of languages, how many languages have spread to new places and regions, factors explaining their locations and pathways of movement, how languages are expressed in cultural landscapes, and how natural environments influence languages.

**GEOG 405 - Historical Geography Credits: 3**
Historical periods portrayed against geographical background.

**GEOG 410-410L/510-510L - Soil Geography and Land Use Interpretation and Lab Credits: 2, 1**
Relationship of soil characteristics and soil classification to land use interpretations. Laboratory exercises involve field and laboratory procedures used in soil survey investigations. Lab to accompany GEOG 410. Prerequisites: GEOG 132-132L, or PS 213-213L, or consent of instructor. Corequisites: GEOG 410L-410/510L-510. Cross-Listed: PRAG 410-410L/510-510L.

**GEOG 415-515 - Environmental Geography and Sustainability Credits: 3**
Geographical aspects of environmental issues including historical geography of environmental problems, global driving forces, land ethics and stewardship, environmental externalities, population, resources, climate change, and environmental restoration. Focus on connections between human and natural systems; consequence chains between cause and effect; impact of time and space on problem perception, analysis, and solution; and natural and human laws. Term paper required.

**GEOG 420-520 - Geography of Tourism Credits: 3**
Based on fundamental tourism principles, this course will examine, from a geographical perspective, the social, cultural, environmental and economic complexities associated with tourism as a global, national and local phenomenon. This course will also consider the positive and negative factors that affect tourists and destinations, and the costs and benefits of tourism to communities and places, providing case-study examples from the United States and around the world. Cross-Listed: HMGT 420-520.

**GEOG 421-521 - Research Methods in Geography Credits: 3**
The use of qualitative and quantitative techniques designing and completing field research in geography and beyond. Special focus will include mixed methods for synthesis, research and survey design, interviewing, ethnography, and visual techniques such as the use of imagery, photography, sketch mapping, and Global Positioning Systems (GPS) for the collection and analysis of geospatial data.

**GEOG 425-525 - Population Geography Credits: 3**
Geographic analysis of such population characteristics as: numbers and distribution; growth and change; composition; mortality, fertility, and theories of population change; policy and family planning; migration and mobility; population, environment, food supply, and human wellbeing. Problems and prospects are considered in the context of each topic.

**GEOG 430-530 - Geography of Europe Credits: 3**
This course focuses on the physical, historical, and cultural features that have shaped the current landscapes of Europe.

**GEOG 440-540 - Health Geography Credits: 3**
The course will explore the history of health geography, its role in public health and other health applications, the use of maps, geospatial methods and GIS within health programs and initiatives, all from the geographic perspective and how place impacts the overall health of communities. Cross-Listed: PUBH 440-540.

**GEOG 447-547 - Geography of the Future (COM) Credits: 3**
A futuristic analysis of Earth's natural environmental elements, natural resources, population and settlement, and cultural institutions at the global, national, and state levels.

**GEOG 454-554 - Sustainable Communities Credits: 3**
This course investigates the intersection of sustainability and communities. This primary focus on this course is the interconnections between social, economic, and environmental systems and their reflexive interactions with community form and function. The goal is to examine policies and programs that can be used to achieve sustainable communities.

**GEOG 459-559 - Political Geography (COM) Credits: 3**
Spatial perspectives of political phenomena from the local to the global scales. Issues include ethnicity, nationalism, boundaries, territory, power, electoral geography, and impacts on the natural environment.

**GEOG 460-560 - Geopolitics Credits: 3**
An introduction to geopolitics that addresses the fundamental links between power and space at the global, national, and local scales. Focuses on classical geopolitics, critical geopolitics, political-economic approaches to geopolitics, world orders and hegemonic cycles, historical development of the international state system, and geography of imperialism.

**GEOG 461-561 - Urban Geography Credits: 3**
Geography of cities: types, functions, and distribution of world cities. Special emphasis on planning of cities in the U.S.

**GEOG 464 - Local and Regional Planning Credits: 3**
Regional planning with particular reference to the upper Mid-West.

**GEOG 470 - Intercultural Communication (COM) Credits: 3**
A study of theoretical dimensions of intercultural communication as well as specific characteristics of intercultural study. Emphasis is placed on complex, mindful, creative and invitational communication, which welcomes diversity and its richness. Cross-Listed: CMST 470.

**GEOG 471-571 - Introduction to GIS Programming Credits: 3**
This course aims to help students develop programming skills for GIS. Specifically, this course covers the following topics: fundamentals of programming, object-oriented programming (OOP), software development life cycle, GIS data processing, and popular GIS libraries. Prerequisites: GEOG 372-372L and INFO 101.

**GEOG 473-473L/573-573L - GIS: Data Creation and Integration and Lab (COM) Credits: 3**
This course introduces advanced tools and techniques of data creation, data integration, mapping, and spatial analysis in Geographic Information Systems (GIS). It provides basic approaches for solving problems of data integration including format identification, conversion, and spatial registration. Building on the skills and techniques learned in the introductory GIS course or equivalent, it gives a conceptual base to many methods and techniques associated with vector and raster-based spatial analysis including imagery. It provides an examination of the functions and capabilities of ArcGIS Desktop GIS software (including extensions). Prerequisites: GEOG 372. Corequisites: GEOG 473L-473/573L-573.

**GEOG 474-474L/574-574L - GIS: Vector and Raster Modeling and Lab Credits: 3**
This course introduces basic concepts of vector and raster modeling in Geographic Information Systems (GIS) with special emphasis is on construction and use of raster digital elevation models (DEMs). Provides in-depth experience with a range of geoprocessing techniques for handling and analyzing GIS data. Topics include vector processing in a model framework, weighted suitability modeling, path finding, modeling viewsheds, constructing surfaces from point samples, and spatial hydrologic modeling. Builds on the skills and techniques learned in the introductory GIS course or equivalent. Prerequisites: GEOG 372. Corequisites: GEOG 474L-474/574L-574.

**GEOG 475-475L/575-575L - GIS Applications and Lab Credits: 3**
This course explores the latest software and its applications in Geographic Information Sciences. Prerequisites: GEOG 372. Corequisites: GEOG 475L-475/575L-575.

**GEOG 476-476L/576-576L - Web GIS and Lab Credits: 3**
This course covers the basic theories, principles, and protocols of Web GIS. Students will learn how to acquire, manage, and publish GIS data in a web-based environment. Develop relevant skills to design and implement a Web GIS application. Prerequisites: GEOG 372-372L.

**GEOG 477-477L/577-577L - Spatial Databases and Lab Credits: 3**
Spatial databases play a significant role in GIS. This course covers the basic theories, principles, and protocols of spatial databases. Learn how to design a spatial database and manage GIS data in the database. Develop relevant skills to design and implement a spatial database. Prerequisites: GEOG 372-372L. Corequisites: GEOG 477L-477/577L-577.

**GEOG 482 - Travel Studies Credits: 1-4**
This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.

**GEOG 483-483L/583-583L - Aerial Remote Sensing and Lab Credits: 3**
Principles and techniques of extracting descriptive and numerical information about features on the Earth's surface from aerial imagery acquired in analog and digital forms from various aerial platforms, including small Unmanned Aircraft Systems. Applications emphasize feature extraction, planimetric mapping, and interpretation of physical and cultural landscapes. The lab is a hands-on experience using various software and the application of methods and principles of aerial remote sensing. Corequisites: GEOG 483L-483/583L-583.

**GEOG 484-484L/584-584L - Remote Sensing and Lab (COM) Credits: 3**
Applications of remote sensing. Development of remote sensing; instrumentation; and techniques and methodology that will aid in the determination of need and proper utilization of our physical and cultural resources. The lab is a hands-on experience using various software and the application of methods and principles of remote sensing. Corequisites: GEOG 484L-484/584L-584.

**GEOG 485-485L/585-585L - Quantitative Remote Sensing and Lab Credits: 3**
This course will concentrate on the digital processing and visualization of various types on remotely sensed imagery. Image sources, characteristics, formats and analysis techniques will be explored as well as the integration of remotely sensed imagery with GIS and GPS datasets. Prerequisites: GEOG 484. Corequisites: GEOG 485L-485/585L-585.

**GEOG 490-590 - Seminar (COM) Credits: 1-4**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division graduate levels. Enrollments in generally limited to fewer than 20 students.

**GEOG 491-591 - Independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**GEOG 492 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**GEOG 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**GEOG 710 - Evolution of Geographic Thought Credits: 3**

**GEOG 714 - Research and Writing Credits: 3**

**GEOG 741 - Quantitative Remote Sensory for Terrestrial Monitoring Credits: 3**

**GEOG 743 - Geospatial Analysis Credits: 3**

**GEOG 760 - Advanced Methods in Geospatial Modeling: Topical Credits: 3**

**GEOG 765 - Advanced Studies in Land Utilization Credits: 1-4**

**GEOG 766 - Advanced Remote Sensing Application Credits: 3**

**GEOG 767 - Fire and Ecosystems Credits: 3**

**GEOG 768 - Global Climate Change Credits: 3**

**GEOG 786 - Geographic Information Systems Credits: 3**

**GEOG 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**GEOG 790 - Seminar (COM) Credits: 1-4**

**GEOG 791 - Independent Study (COM) Credits: 1-4**

**GEOG 792 - Topics (COM) Credits: 3**

**GEOG 794 - Internship (COM) Credits: 1-3**

**GEOG 798 - Thesis (COM) Credits: 1-7**

## GER (German)

**GER 101 - Introductory German I (COM) [SGR #4] Credits: 4**
Becoming sensitized to authentic listening, speaking, reading, writing and culture skills at the elementary level. Introduction to basic functional grammar and sentence structure. Notes: Course meets SGR #4.

**GER 102 - Introductory German II (COM) [SGR #4] Credits: 4**
Continued emphasis on authentic listening, speaking, reading, writing, and culture skills at the elementary level. Prerequisites: GER 101. Notes: Course meets SGR #4.

**GER 201 - Intermediate German I (COM) [SGR #4] Credits: 3**
Develop active listening skills, functional language skills, reading skills related to student learners immediate environment, guided free writing and understanding of interrelationships of language and culture. Prerequisites: GER 101 and GER 102. Notes: Course meets SGR #4.

**GER 202 - Intermediate German II (COM) [SGR #4] Credits: 3**
Develop interactive listening and speaking skills toward initiating and responding to simple statements and questions, ability to understand selected descriptive readings to include literature of various types, and continued refinement of language and culture, traditions, customs, folklore, etc. Prerequisites: GER 101, GER 102 and GER 201. Notes: Course meets SGR #4.

**GER 211 - Intermediate Oral Practice Credits: 2-3**
Intensive conversational work to develop interpersonal, interpretive, and presentational modes of communication in German. Prerequisites: GER 102 and GER 201. Notes: With instructor's permission, may be taken concurrently with GER 201 or with courses above.

**GER 292 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**GER 296 - Field Experience (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**GER 302 - Translating German (COM) Credits: 3**
This course provides experience in translation from German into English (or, as appropriate, from English into German). Initial focus on specific structural and grammatical issues that make the translation of German texts more difficult, followed by units covering the basic areas of translation: genealogical, literary, technical. Experience using online dictionaries, reference works, forums, and how to approach difficult passages and translation problems. Prerequisites: GER 202.

**GER 310 - Practical German Language Skills (COM) Credits: 3**
This course is meant for students who have completed the 200-level sequence, either via coursework at SDSU or via an approved placement exam. It will give them a thorough review of important grammatical points and will lead them towards dealing with and understanding German texts. In the process, they will develop and improve their speaking skills. The combination of grammar review, reading, and discussion will give the student a solid foundation for the 311/312 sequence.

**GER 311 - Composition and Conversation I (COM) Credits: 2**
Oral and written work. Grammar review and composition; emphasis on German conversation. Maybe taken concurrently with GER 411. Prerequisites: GER 202 or consent.

**GER 312 - Composition and Conversation II (COM) Credits: 2**
Oral and written work. Grammar review and composition; emphasis on German conversation. Maybe taken concurrently with GER 412. Prerequisites: GER 202 or consent.

**GER 330 - Reading and Writing for Communication (COM) Credits: 3**
Development of reading, writing, and speaking proficiency through examination of writings from the German-speaking world. Emphasis on vocabulary needed to read and discuss literary and authentic texts. Prerequisites: GER 201 and GER 202.

**GER 350 - German for Commerce (COM) Credits: 3**
The goal of this course is to enable learners to communicate competently in the world of German business, to read, understand, and express themselves orally and in writing in areas such as job search, contract negotiation, product presentation, relations with co-workers, complaint management, and other facets of commercial communication. Prerequisites: GER 202.

**GER 353 - Introduction to German Literature (COM) Credits: 3**
Introduction to German Literature through reading and discussion. Prerequisites: GER 201 and GER 202.

**GER 360 - German for STEM (COM) Credits: 3**
Students will learn to communicate in intermediate-level German on topics in the fields of Mathematics, Science (Chemistry, Biology, Physics), Engineering, Energy, and related subjects. Students will be encouraged to explore how they can use German to enhance their success in STEM-related professions, by using German to speak, understand, read, and write concerning STEM topics using appropriate professional language. They will also explore relevant German contributions to these fields. Prerequisites: GER 202.

**GER 380 - Deutschland Heute (COM) Credits: 3**
An examination of contemporary German society, politics, country and people. Taught in German. Prerequisites: GER 310.

**GER 392 - Topics (COM) Credits: 2-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**GER 396 - Field Experience (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**GER 410 - Focus on German Grammar (COM) Credits: 3**
Intensive study of challenging grammatical features of Standard German. Students will review important grammar concepts and apply them in various forms in writing and speech.

**GER 411 - Advanced Composition and Conversation I (COM) Credits: 3**
Conversational work, oral reports, discussion, diction. Maybe taken concurrently with GER 311. Prerequisites: GER 202.

**GER 412 - Advanced Composition and Conversation II (COM) Credits: 3**
Conversational work, oral reports, discussion, diction. Maybe taken concurrently with GER 312. Prerequisites: GER 202.

**GER 433 - German Civilization I (COM) Credits: 3**
The culture of the German-speaking countries form beginning to modern times including literary and artistic trends, governmental structures, and the life and customs of the people. Reading and discussions in German. Prerequisites: GER 202.

**GER 434 - German Civilization II (COM) Credits: 3**
The culture of the German-speaking countries from the beginning to the 18th century and then to modern times including literary and artistic trends, and customs. Reading and discussion in German.

**GER 435 - German Culture History (COM) Credits: 3**
This class focuses on the study of different aspects of German culture and civilization, such as historical trends, architecture, art, literature, philosophy, innovation, politics, and the cultural legacy of German-speaking countries. Students will investigate the many cultural developments that have forged present-day Germany by conducting extensive, independent research and reporting their findings in presentations, projects, and papers. Students also practice German language skills, hone their intercultural competency, enhance communicative skills, and make interdisciplinary connections. Prerequisites: GER 202.

**GER 444-544 - German Culture and Language in Translation (COM) Credits: 3**
This course offers students a balanced approach to translating written German by equally emphasizing the basic rules of the language, reading skills, history, and culture. Students learn how cultural and historical contexts can make translation both easier and more challenging. Interdisciplinary comparisons and intercultural competence are of special concern. Topics and types of texts will differ according to student interest. This course is taught in English.

**GER 453 - Survey of German Literature I (COM) Credits: 3**
Main currents of German literature from the earliest times to the age of Goethe.

**GER 454 - Survey of German Literature II (COM) Credits: 3**
The main currents of German literature from Romanticism to the present.

**GER 455 - German Film (COM) Credits: 3**
An exploration of German film from its inception to the present, with research and discussion of the interrelationship between film and historical experience.

**GER 491-591 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**GER 492 - Topics (COM) Credits: 2-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**GER 494 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**GER 496 - Field Experience (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

## GERO (Gerontology)

**GERO 201 - Introduction to Gerontology Credits: 3**
Introduction and overview of the field of gerontology. Interdisciplinary focus on aging process, community resources, diversity, health care and caregiving, retirement, death and bereavement, public policy and professional issues.

**GERO 405 - Issues in Aging Credits: 3**
Exploration of current issues which affect the lives of older people, including aging issues among diverse populations; women's aging experience; formal and informal caregiving; political, healthcare, legal, and economic issues. Policy and its link to well-being of older adults and their families will be discussed. Prerequisites: GERO 201.

**GERO 410 - Families and Aging Credits: 3**
Examines the nature and significance of family and family-like relationships and social roles in later life, including long-term marriage, widowhood, divorce, remarriage, sexuality/sexual behavior, dating, singlehood, parent-child relationships, grandparenthood, siblings, and friendship. Exploration of issues related to the aging family system and implications for the development of practice and policy.

**GERO 415-515 - Intergenerational Issues Credits: 1-3**
Exploration of intergenerational issues (impacting both younger and older generations). Examination of intergenerational practice in the United States and internationally, including naturally occurring intergenerational activities and intentional programming, as a means of addressing intergenerational issues.

**GERO 420 - Grief and Loss Credits: 3**
Overview of the experiences of loss and grief due to death and non-death related causes over the lifespan. Exploration of theories, models, and concepts of grief and loss, impacts of loss at different stages in life, and contextual factors impacting grieving. Students will examine their own attitudes toward grief, locate resources to assist those during loss and grief, identify factors which indicate need for referral to other professionals, and develop a plan for self-care when working in the midst of those experiencing loss and grief.

**GERO 486-586 - Service Learning Credits: 1-3**
Service-Learning in Gerontology, including service planning, interaction with community, and reflection. Prerequisites: Instructor permission required.

**GERO 491-591 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**GERO 492-592 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

## GLST (Global Studies)

**GLST 125 - Introduction to Peace and Conflict Studies (COM) [SGR #4] Credits: 3**
Introduction to historical and contemporary debates within the discipline of Peace and Conflict Studies, during which each student is guided to identify his or her own interests within those debates, and then encouraged to evaluate and apply those interests within a coordinated service learning experience. Cross-Listed: ENGL 125. Notes: Course meets SGR #4.

**GLST 201 - Introduction to Global Studies [SGR #3] Credits: 3**
This introductory course investigates globalization from multiple perspectives. Understanding of worldviews and the development of skills to work effectively in a cross-cultural setting are stressed. Techniques for accessing and analyzing varied sources of information about globalization will be emphasized. Notes: * Course meets SGR #3.

**GLST 280 - Developing Intercultural Competence Credits: 3**
This course introduces students to the concepts of culture [the set of shared attitudes, values, goals, and practices that characterizes a group] and intercultural competence [the capability to shift cultural perspective and appropriately adapt behavior to cultural differences and commonalities]. Students explore the theories that inform this field as well as the practical applications of doing this work. Students increase personal cultural self-awareness and develop skills to be used when working across difference in a wide variety of contexts.

**GLST 380 - Futuristic Communications Credits: 3**
Drawing upon the tenets of Futurism, the historical artistic movement begun by Italian poet Filippo's Futurist Manifesto, this intensive writing course will expose students to a wide-ranging set of cultural disruption issues caused by machines, technological innovations, and other rapid changes in modern life. Students will consider both the positive and negative implications caused by these cultural revolutions in a wide variety of literary, artistic, and cinematic texts. They will also think critically about their own role as global citizens. Prerequisites: ENGL 101 and ENGL 201. Cross-Listed: ENGL 380.

**GLST 392 - Topics (COM) Credits: 1-6**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**GLST 401 - Global Cultures and Identities Credits: 3**
Writing and reading intensive course. Examines globalization, intercultural competence, and identity as these issues relate to race, ethnicity, class, and/or gender. Students learn to adapt interdisciplinary approaches to research in these areas. Prerequisites: Junior standing. Notes: Study abroad prior to enrolling in GLST 401 is recommended.

**GLST 435 - Global Film Credits: 3**
In this course, students will view important films from around the world, discuss the relationship between the films, culture, and historical experience, and develop critical thinking and writing skills through film analysis and interpretation.

**GLST 480 - Ethics of Globalization Credits: 3**
A writing intensive, critical, and rigorous examination of the ethical bases and moral philosophical foundations which underpin, support, and justify globalization theory and practice. Cross-Listed: PHIL 480.

**GLST 481-581 - Travel Studies Credits: 1-6**
This course is taken as part of an approved study abroad program under faculty supervision. The number of credit hours depends upon the length of the study abroad program, number of course contact hours, and course content.

**GLST 489 - Capstone Intercultural Competencies Credits: 3**
Capstone course for Modern Languages and Global Studies majors. Students will synthesize skills and information gained throughout their courses of study and translate their knowledge and experience into application in the workplace, citizenship, and graduate study. Specifically, students will explore strengths and interests, reflect on skills gained in coursework and study abroad, identify employment resources, prepare employment materials, and expand a previous project or paper to include in a portfolio for career purposes. Prerequisites: Junior standing.

**GLST 491 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**GLST 492 - Topics (COM) Credits: 3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**GLST 494 - Internship (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

## GS (General Studies)

**GS 340 - International Travel Study Credits: 0-16**
Students who participate in international travel study are required to enroll in this course for zero to 16 credits. Notes: May be repeated for credit.

**GS 486 - Service Learning (COM) Credits: 1-12**
Service learning involves the integration of academic learning, relevant service with community partners, purposeful civic engagement and structured reflection for the purpose of enriching the learning experience and increasing student involvement in community service. The academic study may be in any discipline. Open to all majors.

**GS 490 - Seminar (COM) Credits: 3**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students.

**GS 491 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

## GSE (Geospatial Science & Engineering)

**GSE 740 - Introduction to Geospatial Science Engineering Credits: 3**

**GSE 741 - Quantitative Remote Sensing for Terrestrial Monitoring Credits: 3**

**GSE 743 - Geospatial Analysis Credits: 3**

**GSE 760 - Advanced Methods in Geospatial Modeling: Topical Credits: 3**

**GSE 766 - Advanced Remote Sensing Application Credits: 3**

**GSE 767 - Fire and Ecosystems Credits: 3**

**GSE 768 - Global Climate Change Credits: 3**

**GSE 790 - Seminar (COM) Credits: 1-3**

**GSE 791 - Independent Study (COM) Credits: 1-3**

**GSE 792 - Topics (COM) Credits: 1-3**

**GSE 898D - Dissertation PhD (COM) Credits: 1-12**

## GSR (Graduate School & Research)

**GSR 592 - Topics (COM) Credits: 1-3**

**GSR 601 - Research Regulations Compliance Credits: 1**

**GSR 602 - Program Continuation (COM) Credits: 1**

**GSR 691 - Independent Study (COM) Credits: 1-3**

**GSR 701 - Graduate School and Beyond (COM) Credits: 1**

## HDFS (Human Development Family Study)

**HDFS 141 - Individual and the Family [SGR #3] Credits: 3**
Patterns of behavior and relationships as influenced by family interaction. Emphasis on social and emotional needs of individual and family within various cultural and family contexts as informed by Systems Theories. Open to students of all majors. Notes: Course meets SGR #3.

**HDFS 150 - Early Experience Credits: 2**
Experimental-based introduction to professional contexts within early childhood education (ECE) and/or human development and family studies (HDFS). Students serve as volunteers in community-based human services and educational settings, shadowing professionals to better understand professional roles and opportunities.

**HDFS 210 - Lifespan Development (COM) [SGR #3] Credits: 3**
Study of the changes that take place during an individual's life, from conception till death. Emphases on theory, psychosocial, biosocial, and cognitive development. Notes: Course meets SGR #3.

**HDFS 227 - Human Development and Personality I: Childhood Credits: 3**
Knowledge and understanding of human beings through study of development beginning at conception continuing to adolescence. Consideration given to biological growth, social, emotional and intellectual development as it changes behavior and shapes the individual.

**HDFS 237 - Human Development II: Adolescence Credits: 3**
Knowledge and understanding of adolescence within the developmental framework. Dimensions of physical growth, biological changes, social, intellectual and emotional development will be considered, as well as the impact of interaction of these forces on the individual. Emphasis is upon normal developmental patterns.

**HDFS 241 - Family Relations Credits: 3**
A survey course of family development across the lifespan including the study of the family as a system, family interaction and family roles. Consideration is given to the cultural diversity and heritage of families.

**HDFS 247 - Human Development III: Adulthood Credits: 3**
Developmental approach to Human Development across adulthood. Emphasis on the physical, biological, intellectual and emotional changes. Impact of change upon the personality, self-concept of the individual and their effects upon social behavior, productivity and personal relationships.

**HDFS 250 - Development of Human Sexuality Credits: 3**
A basic course which explores the biological, behavioral, and cultural aspects of human sexuality. The course focuses on individual sexual development, interpersonal aspects of sexual behavior and social/cultural values and beliefs about sexuality and sex roles throughout the lifespan. Cross-Listed: WMST 250.

**HDFS 255 - Program Design, Implementation and Evaluation Credits: 3**
Principles and application of methods used in the design of programs to enhance the development of individuals and families. Strategies used in program evaluation examined. Consideration of model programs currently developed. Prerequisites: HDFS 341 or by permission.

**HDFS 291 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**HDFS 292 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**HDFS 341 - Family Theories Credits: 3**
Various theoretical approaches to marriage and family. Explores strengths and weaknesses, similarities and differences among theories. How each theoretical framework influences views and approaches to marriage and family issues. Prerequisites: HDFS 150 and HDFS 241 or by permission.

**HDFS 410-510 - Parenting Credits: 3**
The study of theories, models, research and skills regarding parenting effectiveness and parent-child relations in the context of Western, Native American, and other cultures living in the U. S. Included are comparisons of the relative strengths and weaknesses of various parenting approaches, historical perspective on parenthood and children, and the developmental perspectives of children and parenting. Best practices for individual and community parent education programs will be addressed.

**HDFS 425-525 - Family Resiliency Credits: 3**
Literature on stress experienced by individuals and families with an emphasis on a systemic analysis of the conceptual/clinical literature of individual and family resilience will be examined. Individual and family characteristics of resilient families and prevention and solution-based principles will be explored in order to understand and promote family resilience in a developmental and ecological context. Students in counseling and human development as well as education, nursing, and other behavioral, social, and health sciences may benefit from the course.

**HDFS 435-535 - Family Policy Credits: 3**
This course examines the impact of family policies, government laws, and programs related to family life. The course will emphasize the current state of families—or family trends—and the implications of such trends for family policy. The varied effects that policies and programs have on different types of families and different aspects of family functioning and well-being will be explored.

**HDFS 441 - Professional Issues in Human Development and Family Studies Credits: 3**
Study of professional issues in the Child and Family Studies field. Course materials are inclusive of public policy, advocacy, leadership, professional development and ethics and workplace issues. Prerequisites: HDFS major with senior standing.

**HDFS 451-551 - Infant and Early Childhood Mental Health Credits: 3**
This course provides students with a comprehensive understanding of socioemotional development and mental health during infancy and early childhood. Course content will examine history, theory, research, concepts, and pertinent developmental and mental health issues in infant and early childhood.

**HDFS 480 - Travel Studies Credits: 1-5**
This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation and a written report.

**HDFS 486-586 - Service Learning Credits: 1-3**
Service-Learning in Human Development and Family Studies, including service planning, interaction with community, and reflection. Prerequisites: Instructor permission required.

**HDFS 487 - Preparation for Practicum Credits: 1**
Preparation for Practicum will complete the requirements needed to enroll in HDFS 495 Practicum. Students will independently investigate practicum sites using criteria for an approved site. Upon approval, students will meet with the agency supervisor to develop professional goals for the practicum experience and create the practicum contract. This course will be taken the semester prior to enrolling in HDFS 495 Practicum.

**HDFS 491-591 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**HDFS 492-592 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**HDFS 495 - Practicum (COM) Credits: 6**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses. Prerequisites: HDFS 237, HDFS 255, HDFS 341, HDFS 441, HDFS 487 and by department consent.

**HDFS 501 - Foundations and Principles of Community Service Credits: 3**

**HDFS 602 - Research and Evaluation in Counseling and Human Development Credits: 3**

**HDFS 605 - Program Administration and Management Credits: 3**

**HDFS 610 - Family Resource Management Credits: 3**

**HDFS 614 - Adult Development Credits: 3**

**HDFS 620 - Family Dynamics Credits: 3**

**HDFS 630 - Lifespan Development Credits: 3**

**HDFS 635 - Crises Across the Lifespan Credits: 3**

**HDFS 640 - Interpersonal Relationships Credits: 3**

**HDFS 665 - Parent Education: Theory and Issues Credits: 3**

**HDFS 701 - Current Issues in Developmental Sciences Credits: 3**

**HDFS 702 - Advanced Human Sexuality Credits: 3**

**HDFS 710 - Program Design, Evaluation, and Implementation Credits: 3**

**HDFS 711 - Child Development Theory and Application Credits: 3**

**HDFS 730 - Grant Writing Credits: 3**

**HDFS 742 - Family Theory and Research Credits: 3**

**HDFS 744 - Diverse Families Credits: 3**

**HDFS 745 - Work and Family Credits: 3**

**HDFS 753 - Family Public Policy Credits: 3**

**HDFS 791 - Independent Study (COM) Credits: 1-3**

**HDFS 792 - Topics (COM) Credits: 1-3**

**HDFS 798 - Thesis (COM) Credits: 1-7**

## HIST (History)

**HIST 111 - World Civilizations I (COM) [SGR #4] Credits: 3**
A survey of the history, culture, religion and society of the principal civilizations of the world to 1500. Notes: Course meets SGR #4.

**HIST 112 - World Civilizations II (COM) [SGR #4] Credits: 3**
A survey of the history, culture, religion and society of the principal civilizations of the world since 1500. Notes: Course meets SGR #4.

**HIST 121 - Western Civilization I (COM) [SGR #4] Credits: 3**
Surveys the evolution of western civilization from its beginnings into the Reformation and religious wars. Notes: Course meets SGR #4.

**HIST 122 - Western Civilization II (COM) [SGR #4] Credits: 3**
Surveys the development of western civilization from the Reformation era to the present. Notes: Course meets SGR #4.

**HIST 151 - United States History I (COM) [SGR #3] Credits: 3**
Surveys the background and development of the United States from its colonial origins to the Civil War and Reconstruction. Notes: Course meets SGR #3.

**HIST 152 - United States History II (COM) [SGR #3] Credits: 3**
Surveys development of the United States since the Civil War and Reconstruction. Notes: Course meets SGR #3.

**HIST 280 - Writing History (COM) Credits: 3**
Study and practice in the major types of historical writing, including research papers, critical book reviews, and essays.

**HIST 292 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**HIST 301 - Jesus Remembered - Gospels Credits: 3**
The purpose of this course is to intensify critical thinking, evaluation, and synthesis skill sets through in-depth examinations of early gospel literature set within Second-Temple Judaism, Hellenism, and the early Roman imperial era. The course will seek to understand how the different sources within and behind the literary presentations of Jesus reflect their authors' historical, social, religious, and political situations. Students will become acquainted with many of the complex issues historians raise through historical and source-critical methods. Cross-Listed: REL 301.

**HIST 311 - Chinese History (COM) Credits: 3**
A survey of Chinese history to 1840.

**HIST 312 - History of Modern Asia (COM) Credits: 3**
Focuses on the history of modern Chinese and Japanese civilizations.

**HIST 314 - History of Modern Japan (COM) Credits: 3**
Focuses on the history of modern Japan from 1853 to the present, with emphasis on economic, social, and political changes.

**HIST 326 - Renaissance and Reformation (COM) Credits: 3**
A study of the major European political powers in the 14th-16th centuries. The course will examine the dramatic changes in politics, society, religion, economics and world view occasioned by the phenomena known as the Renaissance and the Reformation.

**HIST 341 - English History to 1688 (COM) Credits: 3**
Presents English History from the earliest times through the Glorious Revolution of 1688.

**HIST 349 - Women in American History (COM) Credits: 3**
This course will investigate the role of women in the history of the United States. It will attempt to discover what impact women had on the course of events. Selected women and their careers will be highlighted. Cross-Listed: AIS 349/WMST 349.

**HIST 352 - Revolution and Early National United States (COM) Credits: 3**
Causes of the American Revolution, War for Independence, Articles of Confederation, Constitutional Convention of 1787, establishment of the Federal Union and early years of the Republic.

**HIST 357 - America from WWI to the Great Depression: The Perils of Prosperity, 1914-1941 Credits: 3**
Major political, social, economic, and cultural developments from 1914 to 1941, including WWI, the "Roaring" 20s, the Great Depression, and movement toward WWII.

**HIST 358 - The U.S. Since 1941 (COM) Credits: 3**
Social, economic, and political change. The consequences, domestic and foreign, of global power and rising affluence.

**HIST 367 - Rise of American Indian Activism Credits: 3**
This course will cover Indigenous methods of building and maintaining relationships, responses to European colonialism, and pan-Indigenous resistance and diplomacy. This will provide the context for examining contemporary American Indian activism in Indigenous homelands. Within an Indigenous framework of understanding relationships to land and life, the course will analyze the tactics and effectiveness of American Indian activism in North America, delving into the use of legal strategies, media messaging, direct action, and coalition building. Cross-Listed: AIS 367.

**HIST 368 - History and Culture of the American Indian (COM) Credits: 3**
Presents history and culture of North American Indians from before white contact to the present, emphasizing regional Dakota cultures. Cross-Listed: AIS 368.

**HIST 373 - Oral History Credits: 3**
This course focuses on how various fields of study approach the methods, theories, and ethics of oral history. Students will learn from oral history practitioners and those they interview. Students will have the opportunity to practice components of oral history by going into the field and participating in interviews. Cross-Listed: AIS 373.

**HIST 378 - Social and Cultural History of the US Credits: 3**
Aspects of social development, with major emphasis on the period since the Civil War. Themes include gender, class, race, family, education, religion, leisure, music, arts, and values.

**HIST 381 - Imperialism, Then and Now Credits: 3**
The course seeks to understand formal and informal imperialism as a distinct, singular process, which has played a central role in world economy since 1500. The course will analyze gender, ethnic, racial and class inequality at the local, state and global level. Contemporary implications of imperialism will be discussed, especially in the context of economic development and democratization prospects in the Global South. Spanish, Dutch, British, Ottoman and Russian Empires will be covered. Cross-Listed: POLS 381.

**HIST 401 - Early Christian Era Credits: 3**
This course surveys important issues in western religious history and identity from first-century Christian origins through the "great medieval synthesis" of the thirteenth century. While Jewish and Islamic developments are examined, emphasis is placed upon the rise, development, and diversity, and consolidation of Christianity. Cross-Listed: REL 401.

**HIST 402 - Reformations and Religious Conflict Credits: 3**
This course surveys important issues in western religious history from "great medieval synthesis" of the thirteenth century through the Reformation and Counterreformation of the sixteenth century. Also examined is the social environment which led to and was shaped by these developments. While both Jewish and Islamic developments are examined, emphasis is placed upon the development of Christian identity. Cross-Listed: REL 402.

**HIST 404 - Classical Mythology (COM) Credits: 3**
The origin and development of classical myths; their importance in classical literature; and their influence in literature, drama, music, psychology, and art. Cross-Listed: REL 404.

**HIST 406 - Experimental History in the Ancient World Credits: 3**
An introduction to social and cultural history by practicing many of the historical crafts and techniques that underpinned all ancient and medieval cultures such as spinning, weaving, tanning, and weapons making.

**HIST 409-509 - Environmental History of the U.S. (COM) Credits: 3**
Examines the relationship between the natural environment and the historical movements of humans by tracing U.S. environmental changes, beginning with the activities of the Native American peoples through the Euro-American presence to the Cold War era.

**HIST 410 - African American Studies: Early Credits: 3**
This course traces the early experiences of people of African descent in the Americas (specifically North America and some parts of the Caribbean). Topics addressed include: European and African encounters, the trans-Atlantic slave trade, the development of New World slave societies, trans-Atlantic migration and settlement, the emergence of free black communities, and blacks in the American Revolution and the Civil War.

**HIST 411 - African American Studies: Modern Credits: 3**
This course examines the African American experience in the United States from the Civil War to the present. Prominent themes include: Civil War and Reconstruction, Redemption and southern white backlash, black migration, the emergence of the Civil rights movement, and political and intellectual leadership. Discussions will also cover several contemporary issues affecting African American communities, such as education, the war on drugs and Hurricane Katrina, mass incarceration, and police brutality.

**HIST 415 - Women in Antiquity (COM) Credits: 3**
Survey of archaeological, historical, and literary sources to examine women's place in ancient civilizations, their social conditions, their gender roles, and their power/authority in these civilizations.

**HIST 416 - Civil Rights Movement (COM) Credits: 3**
This course examines the major events, organizations, and people who defined the Civil Rights Movement at its height (1940s-1960s). It also explores the systemic oppression of African Americans in the decades leading up to the movement. The course begins with a long historical view of civil rights activism and a consideration of how activists borrowed strategies from older traditions of protest in African American history.

**HIST 419-519 - World Environmental History (COM) Credits: 3**
Examines the history of interactions between human cultures and the natural world, from early humans to the present day.

**HIST 422 - Ancient Rome (COM) Credits: 3**
A survey of Roman History from its beginnings through the reign of Constantine.

**HIST 425 - Medieval Europe (COM) Credits: 3**
Examines the history of Western Europe from the end of the Roman Empire to the beginning of the Renaissance and emphasizes religious, political, economic, and social developments. Prerequisites: HIST 121.

**HIST 440 - Ancient Greece (COM) Credits: 3**
A survey of Greek history from its beginning through the Hellensistic Age. Course not offered each year.

**HIST 445-545 - Nazi and Soviet Europe Credits: 3**
This course presents an analysis of Nazi and Soviet history in early twentieth-century Europe. The class will examine not only the political origins of these regimes, but also the economic, social, intellectual and cultural developments.

**HIST 455 - American Civil War and Reconstruction (COM) Credits: 3**
Explores the economic, political, military, and social aspects of the Civil War and Reconstruction era.

**HIST 460 - American Military History (COM) Credits: 3**
Examines the origins and development of military institutions, traditions, tactics, and practices in the United States from 1775 to the present, including the relation between the armed forces and other government agencies.

**HIST 462 - Formation of Federal Indian Policy Credits: 3**
This course will examine the development of U.S. policies on American Indian/Alaska Native peoples. Topics will include the legal and theological underpinnings of federal Indian policy, constitutional arguments for Congressional control of Indian affairs, treaty-making, allotment, termination, the Reorganization Act, and self-determination. The course will conclude with an examination of current federal policies on such issues as Indian gaming and child welfare. Cross-Listed: AIS 462.

**HIST 465 - Western Expansion of the U.S. (COM) Credits: 3**
Examines the role of the West in American history from exploration and colonization to the closing of the frontier about 1900, emphasizing territorial expansion of the U.S. and various frontier developments, e.g. transportation, transformation of the wilderness into statehood, influence of the frontier in shaping the American character and the role of the West in shaping national policies.

**HIST 471 - American Indians in Film (COM) Credits: 3**
Commercial and educational films address tribal cultures and Indian-White relations in the histories of Latin America and the United States. Cross-Listed: AIS 471.

**HIST 476 - History of South Dakota (COM) Credits: 3**
Examines the history of South Dakota's physical environment, Native American presence, European settlement, economic developments, political institutions, and social life.

**HIST 480 - Historical Methods and Historiography (COM) Credits: 3**
Introduces the problems, materials, and techniques of historical writing, explains the larger meaning and directions of history, and examines major schools of historical thought.

**HIST 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**HIST 492-592 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**HIST 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

## HLTH (Health)

**HLTH 100-100L - Wellness for Life and Lab (COM) Credits: 2**
This course introduces the importance and holistic nature of the six dimensions of personal wellness and fitness. The course will provide the necessary knowledge and skills to make informed decisions which will lead to the development of a healthy lifestyle. Various issues related to the dimensions of wellness will be discussed. Students will have the opportunity to assess their current health status and identify potential risk factors. This laboratory experience applies wellness concepts taught in WEL 100 lecture. Students will gain a level of understanding about one's personal fitness level as well as learn a variety of skills to enhance personal wellness. Corequisites: HLTH 100L-100.

**HLTH 120 - Community Health Credits: 2**
Discussion based course with the goal of understanding the philosophy and principles of community health. Emphasis on knowledge, attitudes and behaviors utilized in solving community health problems. Cross-Listed: HSC 120.

**HLTH 200 - Integrative Holistic Healthcare Credits: 3**
This interdisciplinary course introduces integrative, holistic healthcare practices to inform culturally congruent care for individuals and families. The role of the healthcare professional as a consumer advocate, proponent of evidenced-based care, and educator will be discussed. Students will explore the history and current use of various therapies including mind/body medicine, herbs, traditional Chinese medicine, naturopathy, homeopathy, spiritual healing, acupuncture, nutritional supplements, and Ayurvedic medicine.

**HLTH 212 - Contemporary Health Problems Credits: 2**
Personal health education course which focuses on the health problems facing today's society from birth to death. Emphasis on the knowledge essential in maintaining a healthy lifestyle. Open to all students. Cross-Listed: HSC 212.

**HLTH 220 - Social Determinants of Health Credits: 3**
Through inquiry and critical thinking, this course will explore the social determinants of health, which are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. Students will examine how nutrition, physical activity, and other sociodemographic factors affect health and longevity.

**HLTH 230 - Stress Management for Life Credits: 3**
Stress management course designed to expose students to a holistic approach to preventing and managing stress. Students learn both healthy cognitive (coping) skills and relaxation techniques with the intention of preventing and/or alleviating the symptoms of stress. Content includes the science of stress, the mind/body connection, stress prevention strategies such as perception, mindfulness, time management, and financial management, and a variety of stress management techniques including guided imagery, progressive muscle relaxation, yoga, meditation, and autogenics. The course has both personal application and professional application for students working in any area of healthcare.

**HLTH 250-250L - Pre-Professional First Aid and CPR and Lab (COM) Credits: 2**
Instruction of those who are frequently in a position to provide first aid/CPR and emergency care. Provides essential knowledge and skills needed to develop the functional first aid/CPR capabilities required by a basic first responders, including nurses, teachers, athletic trainers, and other special interest groups. Lab accompanies HLTH 250.

**HLTH 298 - Allied Health Technical Training Credits: 20-48**
Designed to facilitate transfer of students who have completed a one or two year regionally or nationally accredited or certified program in an allied health area. The purpose is to provide transfer of previous work into an upward mobility option for students who have a commitment to an allied health profession.

**HLTH 302 - Wellness and the Family Credits: 2**
Overview of health promotion as applied to the family throughout all stages of development. Planning for promotion of family health. Cross-Listed: HSC 302.

**HLTH 320 - Community Health (COM) Credits: 3**
This course presents the structural organization, functional roles, and political foundations of public and private health agencies relative to community health. The roles and responsibilities of community health educators and professional associations/career opportunities receive particular attention. Prerequisites: HLTH 100-100L or HLTH 103.

**HLTH 350 - Health Education Professional Development Credits: 3**
This course will examine the field of health education in terms of historical developments, professional standards, roles, theoretical foundations, ethics and current health issues. It will also focus on the capabilities and limits of government, important health policy issues and becoming an agent of change and reform. The role of the health professional in the development of public health policy, influencing social policy, planning and advocating for change in the community setting will be discussed.

**HLTH 364-364L - Emergency Medical Technician and Lab (COM) Credits: 4**
This course provides the knowledge and skill base for an individual to become a Nationally Registered EMT. The course follows the curriculum set by the National Emergency Medical Services Educational Standards. Students are expected to learn the skills necessary to recognize numerous medical and trauma related emergencies. Students will learn vital signs monitoring, Basic Life Support interventions and patient moving/packaging skills. Students will apply learned skills to patients in scenario-based training. 10 hours of in-hospital observation and training are required. Laboratory course to accompany HLTH 364. Prerequisites: Written consent (current CPR certification at the level of BLS Healthcare Provider (American Heart Association)). Corequisites: HLTH 364L-364. Notes: This course does not certify students as an EMT; they must pass the National Registry exams.

**HLTH 402-502 - Rural Healthcare Matters Credits: 3**
This course explores the complexity and uniqueness of healthcare needs, trends, and issues faced in rural settings. Through investigation of evidence and literature, students will have the opportunity to explore the challenges in rural healthcare and examine strategies for improving rural healthcare delivery. Students will reflect on collaborative opportunities to address rural healthcare problems. Cross-Listed: HSC 402-502.

**HLTH 405-505 - Health Coaching Concepts and Skills Credits: 3**
This course will prepare students in the foundational knowledge for health and wellness coaching. The class includes health and wellness coaching structure, processes, and session management.

**HLTH 420-520 - K-12 Methods of Health Instruction (COM) Credits: 2**
Curriculum content at elementary and secondary levels. Methods of presentation including direct, correlated, and integrated health instruction. Organization of health and safety education. Prerequisites: Consent.

**HLTH 443 - Public Health Science Credits: 3**
Study of organization and administration of public and voluntary health agencies. Principle functions and program development in vital statistics, maternal-child health, adult health, sanitation, health education, and special health programs. Introduces the student to public health by describing its history and its bases in sociology, economics, philosophy and government. The relationship of environmental factors to health and illness is examined. The course will provide the student with an understanding of administrative and political processes of operation of health agencies by examining traditional and new innovative programs of federal, state and local health agencies. Cost-benefit, cost-effectiveness, and risk assessment are addressed as in the relationship of public law and policies to the delivery of health care. Cross-Listed: HSC 443.

**HLTH 445 - Epidemiology Credits: 3**
This course provides information on the epidemiological concepts, principles, and methods for understanding the distribution and determinants of selected diseases, conditions and indices of health in control and evaluation are analyzed. Prerequisites: Junior or senior standing or instructor consent. Cross-Listed: HSC 445.

**HLTH 451-551 - Public Health Law Credits: 3**
Will investigate issues across a range of specific contexts in public health such as communicable disease control, public health class action litigation and medical care e.g., the right to have and refuse medical care, confidentiality and privacy). Issues include how health policies are developed; the impact current and potential policies have and will have on public health; the courts role and interpretations of public health law; and the interaction of national, state, local, and interest group politics in the formation of policies. The course will focus on the states' roles and the constitutions of the states as well as the Tenth Amendment of the United States Constitution. Cross-Listed: BLAW 451-551. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**HLTH 452 - Interprofessional Issues in Health Care Credits: 2**
This interprofessional course will focus on the analysis of current issues and topics related to health care, including quality improvement, safety, patient- and family-centered care, and leadership. Health care students will engage in interprofessional discussion and collaboration utilizing resources such as the Institute for Healthcare Improvement Open School© modules. Cross-Listed: HSC 452

**HLTH 475 - Principles of Community Health Education Credits: 3**
This course is designed to prepare students with skills necessary to implement health education programs within the context of community health settings. Emphasis will be placed on a variety of community health education methods and strategies including but not limited to educational presentations and material development, mass media and media advocacy, legislative action and involvement, community organization and working with groups.

**HLTH 479-479L - Health Promotion Programming and Evaluation and Lab Credits: 2**
Practical skills of a worksite and community wellness professional will be investigated. Topics include a definition of worksite wellness, rationale for programs, types of programs, design, promotion, evaluation, marketing. Corequisites: HLTH 479L-479.

**HLTH 495 - Practicum (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

## HMGT (Hospitality Management)

**HMGT 171 - Introduction to Hospitality, Tourism, and Event Industry Credits: 3**
A review of the basic components of the hospitality, tourism and event industry in the state, national and international economy. Future trends and career opportunities within these areas will be explored.

**HMGT 251 - Foodservice Sanitation Credits: 1**
Food sanitation and personal hygiene in a foodservice management setting. Students will become certified through the National Restaurant Association upon successful completion of the online ServSafe Food Protection Manager Certification Exam.

**HMGT 291 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**HMGT 292 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**HMGT 295 - Practicum (COM) Credits: 2**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses. Prerequisites: HMGT 171.

**HMGT 355 - Events and Facilities Administration Credits: 3**
Introductory overview of the management and operation of conventions, meetings, trade shows and exhibitions for both profit and non-profit organizations. Emphasizes program planning, budgeting, contracts, marketing, public relations, site and facility selection, exhibit planning and marketing, transportation, food and lodging arrangements, and career opportunities.

**HMGT 361 - Hospitality Industry Law Credits: 3**
This course presents common and civil law as it relates to the operation of various hospitality industry enterprises. Preventative law is presented to permit managers to be aware of potential legal pitfalls and steps required to minimize legal problems. Techniques for industry professionals to research current laws and to identify tools and develop strategies to keep ahead of the ever- changing hospitality legal environment will be explained. At the completion of the course the student will be certified to serve alcoholic beverages in South Dakota. Prerequisites: HMGT 171.

**HMGT 370 - Lodging Management Credits: 3**
Functions of management as applied to the lodging industry including organizing, staffing, controlling, planning, purchasing and marketing for the front office, housekeeping, and maintenance departments. Industry terminology and methods of operations will be explored for all levels of service and segments in the lodging industry. Prerequisites: HMGT 171.

**HMGT 375 - International Tourism Credits: 3**
A comprehensive examination of the complex world of international tourism as a modern mass cultural activity. The course will emphasize world geography and traveler flows, political environments and security relationship, government planning and destination development, economic development strategies and international competition, and the role of international agencies and organizations in world tourism. Prerequisites: HMGT 171.

**HMGT 380 - Foodservice Operations and Purchasing Management Credits: 3**
A managerial and systems approach to foodservice operations and purchasing.

**HMGT 381-381L - Quantity Food Production and Service and Lab Credits: 4**
Application of foodservice management principles in quantity food production, purchasing, and service. Prerequisites: NUTR 141-141L, HMGT 251 (or concurrently), HMGT 380. Corequisites: HMGT 381L-381.

**HMGT 420-520 - Geography of Tourism Credits: 3**
Based on fundamental tourism principles, this course will examine, from a geographical perspective, the social, cultural, environmental and economic complexities associated with tourism as a global, national and local phenomenon. This course will also consider the positive and negative factors that affect tourists and destinations, and the costs and benefits of tourism to communities and places, providing case-study examples from the United States and around the world. Cross-Listed: GEOG 420-520.

**HMGT 455 - Advanced Events and Facilities Administration Credits: 3**
This course prepares learners to apply event management principles in initiating, planning, executing, monitoring/controlling, and closing of meetings, conferences, and special events. Learners will practice integrating leadership, team collaboration, and marketing strategies to successfully design, stage, and execute an event. Prerequisites: HMGT 355 and junior class standing.

**HMGT 472 - Hospitality Facilities Management and Design Credits: 3**
Application of various systems, procedures, and controls associated with the maintenance and engineering departments of lodging and foodservice operations. The course will include the decision-making process used in the planning and designing of hospitality facilities. Prerequisites: Junior standing.

**HMGT 480-480L - Introduction to Wine, Beer, and Spirits and Lab Credits: 3**
The application of management principles and procedures related to the sale and service of alcohol and specialty beverages served in the beverage and hospitality industry. Beverage tasting and sensory analysis of products commonly served in the beverage industry. Prerequisites: Must be at least 21 years old. Corequisites: HMGT 480L-480.

**HMGT 482 - Hospitality Marketing Credits: 3**
Applied marketing covering case studies in the hotel and restaurant industry. Emphasis on implementing marketing strategies including: demographics, image development, advertising, sales promotion, public relations, administering and controlling a marketing plan. Prerequisites: Senior standing.

**HMGT 491 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**HMGT 494 - Internship (COM) Credits: 1-3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**HMGT 495 - Practicum (COM) Credits: 3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

## HNS (Health & Nutritional Science)

**HNS 490 - Seminar (COM) Credits: 1-3**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students.

**HNS 491-591 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**HNS 492-592 - Topics (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**HNS 494-594 - Internship (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**HNS 496 - Field Experience (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**HNS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**HNS 708 - Applied Research and Evidence Based Analysis Credits: 3**

**HNS 783 - Research Methods in Health and Nutritional Sciences Credits: 3**

**HNS 788 - Master's Research Problems/Projects (COM) Credits: 1-7**

**HNS 790 - Seminar (COM) Credits: 1**

**HNS 791 - Independent Study (COM) Credits: 1-3**

**HNS 792 - Topics (COM) Credits: 1-3**

**HNS 794 - Internship (COM) Credits: 1-7**

**HNS 795 - Practicum (COM) Credits: 1-9**

**HNS 796 - Field Experience (COM) Credits: 1-9**

**HNS 798 - Thesis (COM) Credits: 1-7**

**HNS 890 - Seminar (COM) Credits: 1**

**HNS 898D - Dissertation (COM) Credits: 1-12**

## HO (Horticulture)

**HO 105 - Insects and Society Credits: 3**
This non-technical course introduces a wide variety of ways that humans interact with urban and agricultural insects in today's world. It covers the extremely valuable roles where insects are essential to human survival and commerce. The course also reveals where pests are responsible for being disastrous competitors with humans.

**HO 111-111L - Introduction to Horticulture and Lab Credits: 2, 1**
Connecting basic plant science to growing techniques and decision making relating to light, water, temperature, and soil. Introductory plant care, propagation and identification for a wide variety of horticultural crops. Corequisites: HO 111L-111.

**HO 210-210L - Turf and Weed Management in Horticulture and Lab Credits: 3**
Introduction to basic maintenance and culture of turfgrass, and identification and management of common weeds found in horticultural settings (Turf, nursery, food crops, etc.). The use of cultural, biological, chemical and physical methods of turf and weed management will be discussed. Turf and weed identification, control methods, and related activities will be addressed in the laboratory. Prerequisites: HO 111 or PS 103. Corequisites: HO 210L-210. Cross-Listed: PS 210-210L.

**HO 255-255L - Woody Plants and Lab Credits: 4**
Nomenclature, classification, identification and use of trees, shrubs and vines for the Northern Great Plains. Prerequisites: HO 111 or BIOL 101. Corequisites: HO 255L-255. Cross-Listed: PS 255-255L.

**HO 285 - Agricultural Computations Credits: 2**
Integrating technology in production agriculture is becoming more and more prevalent in the world of digital agriculture. This course uses spreadsheet technology as a tool to enhance the student's ability to communicate data-driven information with farmers, ranchers, and agribusiness. This course can be helpful for those who have never used spreadsheets or for those who want to learn to do more and learn how to use this technology in precision agriculture. Cross-Listed: PS 285.

**HO 290 - Seminar (COM) Credits: 2**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division graduate levels. Enrollment is generally limited to few than 20 students.

**HO 303-303L - Forest Ecology and Management and Lab Credits: 3**
The basics of environmental factors which control the growth of trees and forests and how forests in North America are managed. Corequisites: HO 303L-303. Cross-Listed: BOT 303-303L.

**HO 311-311L - Herbaceous Plants and Lab Credits: 3**
Identification, description, landscape uses, propagation, culture and adaptability of selected non-woody ornamental plants with emphasis on annuals, perennials and indoor plants. Prerequisites: HO 111, BOT 201 or consent. Corequisites: HO 311L-311. Cross-Listed: PS 311-311L.

**HO 327-327L - Golf Course Design and Management and Lab Credits: 3**
Principles and practices of golf course design, including site analysis, design process, construction specifications and techniques, and aesthetic/design elements and professional turf management of golf courses and athletic fields, including history, culture, equipment, diagnostics, case studies, and facilities management.

**HO 329 - Horticultural Pests Credits: 3**
A survey of diseases, disorders, insects and mites of horticultural crops. The crops covered include fruits, perennials, trees, shrubs and vegetables in ornamental, field and nursery production systems. Management will be covered following the principles and practices of integrated pest management and plant health care. Cross-Listed: PS 329.

**HO 339 - Arboriculture and Urban Forestry Credits: 3**
The practice and science of establishment and cultivation of woody plants; vines, shrubs and trees; in managed landscapes. The course will also cover the skills needed to manage the care of mature trees in communities and windbreaks. Cross-Listed: PS 339.

**HO 345 - Non-Chemical Weed Management Credits: 3**
This course explores weed management options without the use of synthetic herbicides. Biological and ecological relationships between crops and weeds are characterized. Site specific and sustainable weed management systems are explored with emphasis on mechanical, cultural, and biological methods. Environmentally sustainable weed management methods are discussed in organic and non-organic farming. Prerequisites: PS 103-103L or HO 111-111L. Cross-Listed: PS 345.

**HO 383-383L - Principles of Crop Improvement and Lab Credits: 2, 1**
Evaluation of crop species, reproduction of crop plants, use of genetic variability, traits of interest, breeding programs, designs and management. Heritability, plant introduction, vegetative propagation, hands-on lab demonstrations. Prerequisites: PS 103-103L or HO 111-111L; and BIOL 103-103L, BIOL 153-153L or BOT 201-201L. Corequisites: HO 383L-383. Cross-Listed: PS 383-383L.

**HO 411-511 - Fruit Crop Systems Credits: 1-6**
Studies in perennial fruit crop production and management systems. Credit earned will depend on the number of 1 credit modules taken. Course may be repeated as long as the topic module(s) are not repeated. Topic modules could include: tree fruit production systems; small fruit production systems; viticulture; perennial fruit; integrated pest management; native fruit production systems; fruit harvest, quality, and postharvest care; vines and wines; fruit value-added systems; pruning fruit crops; cover crop management, marketing specialty fruit crops. Cross-Listed: PS 411-511.

**HO 413-413L/513-513L - Greenhouse and High Tunnel Management and Lab Credits: 3**
Greenhouse construction, environmental control, production and scheduling of major greenhouse crops. Trips to commercial greenhouse operations and laboratory work in greenhouse crop production. Corequisites: HO 413L-413/513L-513. Cross-Listed: PS 413-413L/513-513L.

**HO 414-414L/514-514L - Plant Propagation and Lab Credits: 3**
Fundamental anatomical and physiological principles and methods of reproducing herbaceous and woody plants by seeds, cuttings, grafts, layers and division. Prerequisites: HO 111, BOT 201 or consent. Corequisites: HO 414L-414/514L-514. Cross-Listed: PS 414-414L/514-514L.

**HO 416-516 - Landscape Nursery Management Credits: 3**
A study of current nursery and garden center crop cultural practices and business management. Topics to be covered include nursery and garden center design and organization, field and container crop production, transplanting, pricing, and shipping techniques. The working relationship between nurseries, landscape designers and contractors is also discussed. Prerequisites: HO 111, PS 213. Cross-Listed: PS 416-516.

**HO 426-426L/526-526L - Production of Wine Beer Spirits and Laboratory Credits: 3**
Students will learn the procedures required for the biological and agricultural production of wine, beer and spirits coupled with the science of fermentation and the methodology required for the tasting of wine and beer for flavor/odor identification per industry guidelines. Lecture topics of student inquiry include: (1) the brewing of beer and the functional contributions of its ingredients, (2) wine production from vine to bottle, (3) the distillation of spirits and (4) the marketing, pairing and service of wine, beer and spirits. This course is designed for students/graduates who will potentially go into the business of not only growth and production, but also marketing and serving wine, beer and spirits. Laboratory investigation includes hands-on opportunities involving the production of beer and wine. Students will experiment with production parameters and investigate quality defects. Wine and beer quality will be assessed through laboratory testing coupled with taste testing without consumption (taste and spit) both per industry specifications. Students will develop skills in identifying specific flavors/odors such as oak, butter or lemon in wine and similar tasting techniques in beer. Prerequisites: Participants must be 21 years of age or older to enroll. Corequisites: HO 426L-426/526L-526. Cross-Listed: NUTR/PS 426-426L/526-526L.

**HO 434-534 - Local Food Production Credits: 2**
Topics include planning, planting, cultivation, harvest, season extension and marketing of fruits and vegetable crops. Experiential learning model. Cross-Listed: PS 434-534.

**HO 435 - Local Food Production: Harvest and Storage Credits: 2**
Topics include best practices for efficient harvest, access to produce in the field, determining maturity, harvest process for various crops, transport of produce to processing area, cleaning, chilling, packaging, post-harvest care for short and longer-term storage, types of storage facilities, marketing and sales. Cross-Listed: PS 435.

**HO 444-544 - Vegetable Crop Systems Credits: 1-6**
Studies in vegetable crop production and management systems. Credit earned will depend on the modules taken. Course may be repeated as long as the module(s) are not repeated. Potential topic modules could include: root crop systems; cucurbit production systems; vegetable legumes; herbs; solanaceous crops; heirloom vegetable crops; integrated pest management; market gardening; organic production systems; extended season crop management; leaf and cool season crops; annual crop rotation systems; marketing specialty crops. Cross-Listed: PS 444-544.

**HO 447-547 - Organic Plant Production Credits: 3**
This course provides a detailed overview of organic farming for both small scale suburban and urban settings. The topics covered will include: organic certification, soil and nutrient management, pest and disease ID and management, High-Tunnel management, and marketing. Cross-Listed: PS 447-547.

**HO 490 - Seminar (COM) Credits: 1**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division graduate levels. Enrollment is generally limited to few than 20 students.

**HO 491 - Independent Study (COM) Credits: 1-5**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meeting depending upon the requirements of the topic.

**HO 492-592 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is no wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**HO 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**HO 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

## HON (Honors)

**HON 100 - Honors College Orientation Credits: 1**
Opportunities and requirements associated with continued participation in the SDSU Honors College will be emphasized along with general university orientation materials.

**HON 119 - First Year Seminar - Honors Credits: 2**
First-year seminar course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. Students will explore the guiding values of the Fishback Honors College and establish a plan for meeting Honors graduation requirements.

**HON 290 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**HON 383 - Honors Colloquium Credits: 3**
A multidisciplinary examination of a contemporary topic of interest and importance. Themes will vary from semester to semester. The course will emphasize higher order thinking skills, synthesis and application of information, oral and written communication skills. Required for graduation with Fishback Honors College distinction.

**HON 390 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**HON 490 - Seminar (COM) Credits: 1-3**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students.

**HON 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic. Notes: Honors College students work one-on-one with a faculty mentor on an original scholarly project related to their academic and professional goals. Projects may include laboratory, field, or social science research; design projects; historical analyses; or original creative pieces in literature and the arts. Students are encouraged to take HON 390 to help prepare for their Independent Study. Deliverables include a scholarly paper and presentation at a public scholarly venue. Registration is by permission upon approval of the application for Independent Study form.

**HON 492 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**HON 495 - Practicum (COM) Credits: 1-12**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**HON 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**

## HRM (Human Resource Management)

**HRM 460 - Human Resource Management (COM) Credits: 3**
This course provides a survey of managerial practices with respect to the management of the human resource function and an introduction to the topic of human resource management as an occupational choice. Major areas of inquiry include recruitment and selection, training, and development, compensation and benefits administration and work force integration and maintenance. Prerequisites: BADM/MGMT 360 or (BADM 369 completed or concurrent). Cross-Listed: BADM 460.

**HRM 490-590 - Seminar (COM) Credits: 3**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students.

**HRM 491-591 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**HRM 492-592 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is no wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**HRM 494-594 - Internship (COM) Credits: 1-6**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with Field Experience courses. Permission of instructor and/or College Dean is required. (On demand)

**HRM 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**HRM 596 - Field Experience (COM) Credits: 1-3**

**HRM 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**HRM 792 - Topics (COM) Credits: 1-4**

## HSC (Health Science)

**HSC 120 - Community Health Credits: 2**
Discussion based course with the goal of understanding the philosophy and principles of community health. Emphasis on knowledge, attitudes and behaviors utilized in solving community health problems. Cross-Listed: HLTH 120.

**HSC 200 - Integrative Holistic Healthcare Credits: 3**
This interdisciplinary course introduces integrative, holistic healthcare practices to inform culturally congruent care for individuals and families. The role of the healthcare professional as a consumer advocate, proponent of evidenced-based care, and educator will be discussed. Students will explore the history and current use of various therapies including mind/body medicine, herbs, traditional Chinese medicine, naturopathy, homeopathy, spiritual healing, acupuncture, nutritional supplements, and Ayurvedic medicine. Cross-Listed: HLTH 200.

**HSC 212 - Contemporary Health Problems Credits: 2**
Personal health education course which focuses on the health problems facing today's society from birth to death. Emphasis on the knowledge essential in maintaining a healthy lifestyle. Open to all students. Cross-Listed: HLTH 212.

**HSC 230 - Stress Management for Life Credits: 3**
Stress management course designed to expose students to a holistic approach to preventing and managing stress. Students learn both healthy cognitive (coping) skills and relaxation techniques with the intention of preventing and/or alleviating the symptoms of stress. Content includes the science of stress, the mind/body connection, stress prevention strategies such as perception, mindfulness, time management, and financial management, and a variety of stress management techniques including guided imagery, progressive muscle relaxation, yoga, meditation, and autogenics. The course has both personal application and professional application for students working in any area of healthcare. Cross-Listed: HLTH 230.

**HSC 253 - Disaster Preparedness Credits: 2**
Basic philosophy, fundamental principles of civil defense; citizen's role in emergency planning for non-military national defense. Open to all students.

**HSC 260 - Women's Health Issues Credits: 3**
This interdisciplinary course critically examines issues in women's health. Biological, socio-cultural, psychological, historical and political processes that shape and define women's health and healthcare experiences are explored. Cross-Listed: WMST 260.

**HSC 302 - Wellness and the Family Credits: 2**
Overview of health promotion as applied to the family throughout all stages of development. Planning for promotion of family health. Cross-Listed: HLTH 302.

**HSC 364 - Next Generation Babies: Ethics and Emerging Technologies of Human Reproduction Credits: 3**
This course discusses the process of human reproduction, emphasizing sexual and reproductive health, advances in assisted reproductive technologies, prenatal diagnosis, and genetics. Sociocultural and environmental context, ethical, and legal challenges influencing reproductive-life plans are examined.

**HSC 402-502 - Rural Healthcare Matters Credits: 3**
This course explores the complexity and uniqueness of healthcare needs, trends, and issues faced in rural settings. Through investigation of evidence and literature, students will have the opportunity to explore the challenges in rural healthcare and examine strategies for improving rural healthcare delivery. Students will reflect on collaborative opportunities to address rural healthcare problems. Cross-Listed: HLTH 402-502.

**HSC 433-533 - Occupational Health Credits: 3**
Occupational Health is a survey course dealing with health concerns in the workplace and the scope, objectives, and functions of occupational programs. Work related injuries and diseases and the effects of harmful exposure to chemical and physical agents which cause discomfort, stress, inefficiency or disease are examined. Emphasis is placed on preventative measures and early intervention to assure a reasonable, healthful work environment.

**HSC 443 - Public Health Science Credits: 3**
Study of organization and administration of public and voluntary health agencies. Principle functions and program development in vital statistics, maternal-child health, adult health, sanitation, health education, and special health programs. Introduces the student to public health by describing its history and its bases in sociology, economics, philosophy and government. The relationship of environmental factors to health and illness is examined. The course will provide the student with an understanding of administrative and political processes of operation of health agencies by examining traditional and new innovative programs of federal, state and local health agencies. Cost-benefit, cost-effectiveness, and risk assessment are addressed as in the relationship of public law and policies to the delivery of health care. Cross-Listed: HLTH 443.

**HSC 445 - Epidemiology Credits: 3**
The course provides information on the epidemiological concepts and methods needed to understand the description of the occurrence of health outcomes, and the identification of risk factors for health outcomes in human populations. Prerequisites: Junior or senior standing or instructor consent. Cross-Listed: HLTH 445.

**HSC 452 - Interprofessional Issues in Health Care Credits: 2**
This interprofessional course will focus on the analysis of current issues and topics related to health care, including quality improvement, safety, patient- and family-centered care, and leadership. Health care students will engage in interprofessional discussion and collaboration utilizing resources such as the Institute for Healthcare Improvement Open School© modules. Cross-Listed: HLTH 452.

**HSC 490 - Seminar (COM) Credits: 1-4**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division graduate levels. Enrollment is generally limited to few than 20 students.

**HSC 492-592 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**HSC 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**HSC 631 - Biostatistics I Credits: 3**

**HSC 731 - Biostatistics II Credits: 3**

**HSC 733 - Environmental Health Credits: 3**

**HSC 755 - Program Planning and Evaluation Credits: 3**

**HSC 764 - Applied Dissemination and Implementation Research in Health Credits: 3**

**HSC 782 - Epidemiology Credits: 3**

**HSC 785 - Advanced Epidemiology Credits: 3**

**HSC 791 - Independent Study (COM) Credits: 1-3**

**HSC 832 - Mixed Methods Research Credits: 3**

**HSC 845 - Measurement and Instrument Evaluation in Health Sciences Research Credits: 3**

## ID (Interior Design)

**ID 112 - Drafting and Visualization Credits: 2**
This course introduces various drafting and visualization methods utilized to engage in design process and represent design ideas.

**ID 180 - Introduction to Interior Design Credits: 2**
This lecture introduces students to the principles and processes that define the profession and the value of interior design to society.

**ID 209 - Human Factors and Behavior Credits: 3**
This course introduces students to the concepts of human factors, human behavior, and programming. Students will gain a foundational understanding of ergonomics, anthropometrics, as well as the physical and psychological impacts of space on diverse users.

**ID 212 - Computer Aided Design Credits: 2**
This course introduces students to various hand and digital tools utilized to engage in design process and represent design ideas. Prerequisites: ID 112.

**ID 215 - Interior Design Materials Credits: 3**
This course explores the characteristics of interior finishes and furnishings, including history, resources, environmental issues, selection and performance criteria and installation. Projects focus on material research, selection and application for a particular design typology and client situation.

**ID 216 - Light and Color Credits: 3**
This course explores the principles and theories of light and color effectively applied in relation to environmental impact and human well-being. Assignments correspond with lecture content to assist in understanding the process and approach to integrated lighting design and building systems controls.

**ID 251 - Interior Design Studio I Credits: 4**
This studio explores conceptual thinking and placemaking through spatial articulation utilizing the elements and principles of design. Developing communication skill sets (visual, graphic and written) and computer software knowledge is paramount. Notes: Interior Design majors and minors must achieve a "C" or better in ID 251 to progress to ID 252.

**ID 252 - Interior Design Studio II Credits: 4**
This studio explores issues of universal/inclusive design through residential and hospitality spaces. A focus on global awareness and practice through an international project reinforces development of skills for operating within a global market. Visual communication and computer software skills are expanded. Prerequisites: ID 251 (Minimum grade of "C").

**ID 314 - Building Systems and Construction Credits: 3**
This course examines the materials and methods of construction to understand how various building systems are organized. Understanding the coordination required of the building trades, including structural, mechanical, electrical, architectural and interior detailing is fundamental to the design and construction of built environments.

**ID 318 - Building Codes and Regulations Credits: 3**
This course focuses on the understanding and application of industry codes and regulations, including ADA standards, life safety standards, the International Building Code and various state, municipal and specialty codes. Integration of principles of universal design into built environment is further emphasized. Prerequisites: ID 314.

**ID 341 - History of Interior Design I Credits: 3**
This course presents a history of interior design from antiquity to the Industrial Revolution; examining art, architecture, interior design, furniture, and the sociological and cultural context of various architectural movements.

**ID 342 - History of Interior Design II Credits: 3**
This course presents history of interior design from the Industrial Revolution to the present; examining art, architecture, interior design, furniture, objects and the sociological and cultural context of various design movements. Prerequisites: ID 341.

**ID 351 - Interior Design Studio III Credits: 4**
This studio explores advanced commercial design through lenses of corporate office and retail interior design. Projects investigate the design process with emphasis on programming, design thinking and research. Presentation skills, graphic techniques and technical proficiencies are necessary to effectively communicate design intent. Prerequisites: ID 252 (Minimum Grade of "C").

**ID 352 - Interior Design Studio IV Credits: 4**
This studio explores learning environments, varying largely in scale, and emphasizes sustainable design. Projects investigate the design process, with emphasis on programming, concept development, planning and spatial articulation that support and enhance client needs. Prerequisites: ID 351 (Minimum Grade of "C").

**ID 371 - Professional Practices in Interior Design Credits: 2**
This course provides an overview of the business of interior design, focusing on the profession, ethics, project management, design fees and contracts, estimating, business formation, business organization and management, personnel issues, legal issues and businesses processes. This imbeds professional values that mold responsible, accountable and effective interior designers.

**ID 377 - Design Presentation Strategies Credits: 2**
This course focuses on the content and graphics for cover letter, resume and portfolio development, necessary for internships and job seeking. This course provides students with the knowledge and skills necessary to present and promote design ideas. Emphasis is placed on professional design marketing strategies, design proposals, and personal portfolio development. Prerequisites: ID 252 or junior standing. Corequisites: ID 377L-377.

**ID 415 - Contract Documents Credits: 2**
This course provides expanded discussion of building and interior materials, including proprieties, specification and procurement processes, and detailed drawing development for inclusion in project contract documents. Projects focus on in-depth material research and detailing. Prerequisites: ID 215 and ID 314.

**ID 451 - Interior Design Studio V Credits: 4**
This studio provides experience in solving design problems related to socio-economic or cultural issues; requiring comprehensive project development from concept through detail and integration of building systems. Prerequisites: ID 352 (Minimum Grade of "C").

**ID 452 - Interior Design Studio VI Credits: 3**
This studio experience serves as a capstone project, through the design and detailed development of an interior environment focused in healing and healthcare typologies. This process sharpens students' design and presentation skills, challenges critical thinking, reinforces the value of research-based design, instills social responsibility, encourages holistic thinking of building systems, and encourages the development of students' project management skills and leadership. Prerequisites: ID 451 (Minimum Grade of "C").

**ID 480 - Travel Studies Credits: 1-5**
This travel-study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators at other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.

**ID 490 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division graduate levels. Enrollment is generally limited to few than 20 students.

**ID 491 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**ID 492 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is no wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ID 495 - Practicum (COM) Credits: 3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses. Prerequisites: ID 371, ID 352, 2.2 GPA and 90 credits.

## IDL (Interdisciplinary Studies)

**IDL 362 - Interdisciplinary Inquiry and Integration Credits: 3**
Application and integration of interdisciplinary insights into complex problem-solving. Students will develop critical research and writing skills. Notes: Fall only.

**IDL 479 - Interdisciplinary Studies Capstone Credits: 3**
The Capstone course will be used as a culminating experience in which students synthesize subject-matter knowledge they have acquired, integrating cross-disciplinary knowledge, and connect theory and application in preparation for entry into a career. The course will be taken last in a sequence of courses in an Interdisciplinary Studies program. The capstone course will require students to integrate the student's plan of study into a final product (paper, portfolio, and presentation) that demonstrates their ability to make connections and apply their knowledge and skills. The nature of interdisciplinary studies will be examined along with emphasis on intellectual abilities such as writing, researching, thinking critically, and speaking. Prerequisites: "C" or better in IDL 362. Notes: Spring only.

## INFO (Informatics)

**INFO 101 - Introduction to Informatics [SGR #6] Credits: 3**
An introduction to informatics and basic computer programming. Other topics include the basic operation of hardware, software, servers, the Internet, intranets, networks, web browsers, and information security. Notes: Course meets SGR #6.

**INFO 102 - Data Ethics [SGR #3] Credits: 3**
A study of the social, political, economic and ethical implications of information and informatics on business and society. Other topics include information ownership, intellectual property and the social construction of information. Cross-Listed: PHIL 102. Notes: * Course meets SGR #3.

## LA (Landscape Architecture)

**LA 101 - Ecology and the Built Landscape Credits: 3**
An introduction to the profession of landscape architecture, with emphasis on landscape appreciation, environmental concerns, conservation, landscape resilience, land ethics, stewardship, and the connection between natural and cultural factors in the built and natural environments.

**LA 132 - Seeing and Drawing the Land Credits: 3**
Students learn to see and represent built and natural environments through in-field investigation and sketching, drawing, drafting, and modeling exercises. Emphasis on fundamental drawing and construction tools and practices.

**LA 231 - Digital Drafting and Mapping Credits: 2**
Students explore digital means of drafting, mapping, and modeling the landscape, including site analysis, problem-solving, design management, and professional communication. No prior knowledge of relevant software is necessary. Each student must have access to a laptop computer (contact department for specifications) that can be brought to class each day.

**LA 232 - Digital Representation Credits: 2**
Advanced computer applications for landscape architecture are explored. Focus is given to the development of spatial relationships and computer-generated or computer-enhanced presentation graphics. Also includes portfolio development.

**LA 242 - People and the Environment Credits: 3**
An overview of human influences on the natural and built environment from a historical perspective, from early Egyptian civilization through the modern era. Students will explore evolving trends of aesthetic taste and societal and technological influences on landscape architecture, with a focus on the efforts of key historical and contemporary designers.

**LA 251 - Site Analysis Credits: 4**
Site survey, analysis, and design synthesis. Focuses on social, physical, and cultural resources as design considerations for future land use planning. Introduces foundational site analysis methods and tools.

**LA 252 - Site Planning Credits: 4**
Serves as a lower-division capstone course synthesizing previous coursework and applying that knowledge to site design projects. Includes units on design methodology, site planning and circulation, and creative problem solving. Prerequisites: LA 251.

**LA 331 - Landscape Architecture Site Engineering Credits: 3**
Technical work in preparing grading plans, computing areas of cut and fill, site selection, topographic analysis, soil and exposure analysis, surface and subsurface drainage, and pedestrian and vehicular circulation. Prerequisites: LA 252.

**LA 332 - Landscape Architecture Construction Detailing Credits: 3**
Design and construction of walks, terraces, fences, walls, pools, and other landscape structures and systems. Prerequisites: LA 252.

**LA 341 - Public and Social Place Design Credits: 3**
Students learn the complexity of designing in the public realm, including issues of access, equity, diversity, environmental and social justice, sustainability, and other social challenges. Function, diverse user needs, pedestrian and vehicular circulation systems, and land use are addressed. Prerequisites: LA 252.

**LA 342 - City Planning Credits: 3**
City planning in the United States, planning practice and theory, urban design, and land use planning. Local planning efforts observed. Prerequisites: LA 252.

**LA 351 - Community and Housing Design Credits: 4**
Students apply design skills to a variety of projects with a focus on the residence. Dwelling types and varieties are explored, with emphasis on the evolving trends in neighborhood and residential design. Students discuss issues of poverty, homelessness, gentrification, place attachment, and placemaking. Prerequisites: LA 252.

**LA 352 - Planting and Ecological Design Credits: 4**
Preparation of planting designs, plans, and specifications for projects of increasing complexity. Emphasis on northern plains landscapes. Focus on use of native plants and sustainable design. Projects from small residential scale to larger regional scale. Design applications emphasizing the space forming potential and functional use of natural and man-made plant groups. Prerequisites: LA 252.

**LA 389 - Travel Studies Credits: 1-3**
An in-depth analysis of historical and contemporary sites of significance to the discipline of landscape architecture. Emphasis is placed on on-site observational methods, including the use of case-study research and presentations, sketchbook documentation, and personal interviews. Students will also be exposed to the professional practice of landscape architecture abroad. Course involves a 3-week travel experience immediately after spring finals. Prerequisites: LA 242 or instructor consent.

**LA 431 - Landscape Architecture Construction Processes Credits: 3**
A capstone landscape construction course. Particular emphasis placed on hands-on construction project and development of a construction documentation package, including specifications, project management and contract documents, and the bidding process. Prerequisites: LA 332.

**LA 432 - Project Bidding, Estimating and Management Credits: 3**
Reading and interpreting contract drawings and specifications, quantity take- offs, cost estimating, and bid document preparation.

**LA 441 - Recreation Design Credits: 3**
Students apply design skills to recreation-based projects, such as parks, trails, playgrounds, and athletic facilities. Students explore concepts of play and leisure activities and their role in helping to maintain a healthy lifestyle. Students address planning and design at both the system and site levels. Prerequisites: LA 342.

**LA 442 - Professional Development Credits: 2**
An exploration of challenges, design foci, research trends and other topics and activities of importance to emerging professionals. Prerequisites: LA 342.

**LA 451 - Urban Design Studio Credits: 4**
Contemporary urban issues affecting the design process, site master planning, and multi-disciplinary problem solving. Applied project will address influences on urban design, from regional influences to user behavior. Prerequisites: LA 352.

**LA 452 - Capstone Studio Credits: 4**
An advanced design studio with an emphasis on environmental design, land use ethics, current issues in landscape design and professional practice. Senior exit examination requirement is completed during this class. Prerequisites: LA 451.

**LA 491 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meeting depending upon the requirements of the topic.

**LA 492 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is no wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**LA 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**LA 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

## LAKL (Lakota)

**LAKL 101 - Introductory Lakota I (COM) [SGR #4] Credits: 4**
This course is an introduction to the Lakota language. Emphasis is placed on the basic sounds of the Lakota language, correct pronunciation, and orthography used to represent those sounds. The course includes a focus on male/female speech patterns, kinship terms, other ordinary environmental and cultural contexts, and basic sentence structure. Language tables are used to enhance fluency in conversational Lakota. Cross-Listed: AIS 101. Notes: * Course meets SGR #4.

**LAKL 102 - Introductory Lakota II (COM) [SGR #4] Credits: 4**
This course is a continuation of the Lakota language in both written and oral forms. Emphasis is placed on pronunciation, a more extended examination of grammar, expanded vocabulary, and continued practice in reading, writing, and speaking Lakota. Language tables are used to enhance fluency in conversational Lakota. Prerequisites: AIS 101 or LAKL 101 or consent of instructor. Cross-Listed: AIS 102. Notes: Course meets SGR #4.

**LAKL 201 - Intermediate Lakota I (COM) [SGR #4] Credits: 3**
This course is an advanced course that builds on the introductory Lakota language courses. Students will learn advanced grammar and Lakota literacy with an emphasis on verb conjugation, composition of sentences, and an analysis of Lakota/Dakota language texts. Language tables are used to enhance fluency in Lakota speaking skills. Prerequisites: AIS 101 and AIS 102 or LAKL 101 and LAKL 102 or instructor consent. Cross-Listed: AIS 201. Notes: Course meets SGR #4.

**LAKL 202 - Intermediate Lakota II (COM) [SGR #4] Credits: 3**
This course is a continuation of teaching grammar and Lakota literacy with an emphasis on verb conjugation, composition of sentences, and further in-depth analysis of Lakota/Dakota language texts. Language tables are used to enhance fluency in Lakota speaking skills. Prerequisites: AIS 101 and AIS 102 or LAKL 101 and LAKL 102 or instructor consent. Cross-Listed: AIS 202. Notes: Course meets SGR #4.

## LAS (Latin American Studies)

**LAS 301 - Latin American Cultures Credits: 2-3**
A broad view of a country, region, epoch or theme concerning Latin America. A multidisciplinary and multimedia approach. Prerequisites: Sophomore standing or consent. Notes: May be repeated with consent of the coordinator of the LAS program.

**LAS 302 - Latin American Societies Credits: 3**
A broad view of the society of a country, region, epoch or theme concerning Latin America. A multidisciplinary and multimedia approach. Prerequisites: Sophomore standing or consent. Notes: May be repeated for credit with consent of the LAS Coordinator.

**LAS 491 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic. Notes: Requires Junior class standing.

## LDR (Leadership)

**LDR 210 - Foundations of Leadership Credits: 3**
Foundations of Leadership is designed to sharpen fundamental leadership skills, develop core competencies and advance the goals of the University. The goal for the Foundations of Leadership course is to equip students with the knowledge, skills, and networks needed to achieve their goals within the classroom and in relation to their own personal development and future careers.

**LDR 310 - Leadership in Context (COM) Credits: 3**
An examination of principles of leadership development within a variety of unique contextual settings. Topics include definitions and varied approaches to the study of leadership, leadership styles, gender and ethnic diversity, leadership in groups, moral and ethical issues, mission statements, and contemporary leadership issues facing particular personal and professional contexts. Emphasis is placed on service in relation to leadership and personal analysis of strengths and leadership styles within individual experiences.

**LDR 410 - Leadership: Senior Seminar Credits: 1**
Students will examine contemporary leadership issues through readings, speakers and class discussions, and will develop a senior portfolio showcasing their development and capacities as a leader.

**LDR 435 - Organizational Leadership and Team Development Credits: 3**
This course focuses on leadership and team development in organizational structures. Students will study organizations and teams through the lens of leadership to better apply theory to practice in different organizations including nonprofit organizations. Topics include leadership intelligence, organizational alignment and vision, leadership values, creating a civil work climate, leading teams, organizational culture, conflict resolution techniques, follower engagement, personality and skills performance management, and leading change. Prerequisites: Junior standing.

**LDR 492 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**LDR 496 - Field Experience (COM) Credits: 2**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

## LING (Linguistics)

**LING 203 - English Grammar Credits: 3**
Instruction in the theory and practice of traditional grammar including the study of parts of speech, parsing, and practical problems in usage. Prerequisites: ENGL 101.

**LING 420-520 - The New English Credits: 3**
Diverse new theories and applications in English linguistics: lexicography, pragmatics, stylistics, socio-semantics, semiotics, and discourse theory. Prerequisites: ENGL 101 and ENGL 201 (undergraduates only).

**LING 425 - Modern Grammar (COM) Credits: 3**
Structures of modern English through analyses that are primarily traditional, structural, and transformational. Prerequisites: ENGL 201 is a recommended prerequisite.

**LING 452-552 - General Semantics Credits: 3**
Relations between symbols; human behavior in reaction to symbols including unconscious attitudes, linguistics assumptions; and the objective systematization of language. Prerequisites: ENGL 101 and ENGL 201.

## LMNO (Leadership & Management of Nonprofit Organizations)

**LMNO 201 - Introduction to Leadership and Management of Nonprofit Organizations Credits: 3**
The course provides a basic understanding of the nonprofit sector and the role of philanthropy in the United States. It introduces students to the history, philosophy, ethics, and organization of nonprofit and social service agencies, and the roles of a human service professional in the nonprofit field.

**LMNO 292 - Topics (COM) Credits: 1-3**
Includes Current Topics, Advanced Topics and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**LMNO 301 - Fundraising and Resource Development Credits: 3**
Theory and practice of philanthropy, resource acquisition methods through ethical fundraising, and earned income approaches for nonprofit organizations.

**LMNO 305 - Volunteer Management Credits: 3**
Administration of volunteer service programs. Study and analysis of volunteer personnel process.

**LMNO 315 - Financial Management of Nonprofit Organizations Credits: 3**
Financial management specific to nonprofits including accounting, budgeting, reporting, and analysis. Prerequisites: ACCT 211.

**LMNO 486 - Service Learning Credits: 1-3**
Service Learning in Leadership and Management of Nonprofit Organizations, including service planning, interaction with community, and reflection.

**LMNO 487 - Preparing for Internship and Career Credits: 2**
Students acquire personal and professional skills necessary for success in the nonprofit environment. Students will secure an internship and address internship expectations related to the certified nonprofit professional requirements. Prerequisites: CS 377, LMNO 201, and Junior level standing.

**LMNO 491 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meeting depending upon the requirements of the topic.

**LMNO 492 - Topics (COM) Credits: 1-3**
Includes Current Topics, Advanced Topics and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**LMNO 494 - Internship (COM) Credits: 3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses. Prerequisites: LMNO 487.

**LMNO 495 - Practicum (COM) Credits: 1-8**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**LMNO 496 - Field Experience (COM) Credits: 2**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

## MATH (Mathematics)

**MATH 021 - Basic Algebra (COM) Credits: 3**
This course prepares students for college level mathematics. Topics generally include: basic properties of real numbers, exponents and radicals, rectangular coordinate geometry, linear and quadratic equations, linear inequalities, polynomials, and factoring. Students may also be introduced to functions and systems of equations. Note: This is a remedial level course and no credit for MATH 021 will be granted for graduation. Grade assigned RS/RU. Prerequisites: Appropriate placement based on standardized testing.

**MATH 093 - Algebra for Mathematical Reasoning (COM) Credits: 1-3**
This course provides supplemental instruction in algebra to students co-enrolled in a quantitative literacy course. Algebraic topics are sequenced in a manner that supports the needs of the co-requisite quantitative literacy course. Prerequisites: Placement. Corequisites: MATH 103. Notes: This is remedial level course. No credit for MATH 093 will be granted for graduation.

**MATH 094 - College Algebra Laboratory (COM) Credits: 1-3**
This course provides supplemental instruction in algebra topics to students co-enrolled in an introductory college algebra course. Topics are sequenced in a manner that supports the needs of the co-requisite college algebra course. Prerequisites: Placement. Corequisites: MATH 114.

**MATH 101 - Intermediate Algebra (COM) Credits: 3**
This course includes basic properties of real numbers. Topics generally include linear equations and inequalities, quadratic equations, systems of equations, polynomials and factoring, rational expressions and equations, radical expressions and equations, and an introduction to functions. Credit for MATH 101 will not be granted to anyone who has previously received credit for MATH 114 or MATH 115. A grade of S or a grade of C or better will be required for progression into MATH 114. Prerequisites: One remedial math course (MATH 095 or MATH 021) with a grade of C or better or appropriate placement based on standardized testing.

**MATH 103 - Mathematical Reasoning (COM) [SGR #5] Credits: 3**
In this course, students will work with authentic problems to develop logical, critical thinking, and mathematical skills. The student will build a cultural appreciation for the relevant and meaningful role that mathematics plays in many areas of life. Topics may include: finance, introduction to probability and statistics, and linear and exponential models, among others. Prerequisites: Placement, MATH 095 or MATH 101. Notes: Course meets SGR #5.

**MATH 114 - College Algebra (COM) [SGR #5] Credits: 3**
This course includes a study of the theory and application of functions including function notation, graphs, inverses, polynomial, rational, exponential, logarithmic, and other functions. May also include additional topics such as sequences, series, the binomial theorem, linear systems, matrices, or complex numbers. Prerequisites: Placement, MATH 095 or MATH 101. Notes: Course meets SGR #5.

**MATH 115 - Precalculus (COM) [SGR #5] Credits: 5**
A preparatory course for the calculus sequence. Topics include: polynomial, rational, exponential, logarithmic and trigonometric functions and their graphs; systems of equations, inequalities and complex numbers. Prerequisites: MATH 114 or placement. Notes: Course meets SGR #5.

**MATH 120 - Trigonometry (COM) [SGR #5] Credits: 3**
Topics include: trigonometric functions, equations, and identities; inverse trigonometric functions; and applications of these functions. Additional topics may include exponential and logarithmic functions, trigonometric form of complex numbers; and polar equations. Prerequisites: MATH 114 or placement. Notes: Course meets SGR #5.

**MATH 121-121L - Survey of Calculus and Lab (COM) [SGR #5] Credits: 5**
A survey of calculus including an intuitive approach to limits, continuity, differentiation, and integration with an emphasis on applications of the derivative and the integral as well as topics from multivariable calculus. A lab which supplements Math 121 and provides the opportunity to study applications in more detail. Prerequisites: MATH 114, MATH 115, MATH 120, or placement. Corequisites: MATH 121L-121. Notes: Course meets SGR #5.

**MATH 123 - Calculus I (COM) [SGR #5] Credits: 4**
The study of limits, continuity, derivatives, applications of the derivative, antiderivatives, the definite and indefinite integral, and the fundamental theorem of calculus. Prerequisites: MATH 115 or MATH 120 with grade of A or B or placement. Students having completed MATH 115 or MATH 120 with grade of C or D should take MATH 123-123L. Notes: Course meets SGR #5.

**MATH 123L - Calculus I Lab (COM) Credits: 1**
A lab which supplements MATH 123 and provides the opportunity to study applications in more detail. Corequisites: MATH 123.

**MATH 125 - Calculus II (COM) [SGR #5] Credits: 4**
A continuation of the study of calculus, including the study of sequences, series, polar coordinates, parametric equations, techniques of integration, applications of integration, indeterminate forms, and improper integrals. Prerequisites: MATH 123. Notes: Course meets SGR #5.

**MATH 198 - The Mathematics Profession (COM) Credits: 1**
An overview of the SDSU Department of Mathematics and Statistics, the mathematics profession, careers in mathematics, and effective techniques for pursuing such careers. Notes: Fall semester only, S/U grading, may not be used to satisfy SGR #5.

**MATH 225 - Calculus III (COM) [SGR #5] Credits: 4**
A continuation of the study of calculus, including an introduction to vectors, vector calculus, partial derivatives, and multiple integrals. Prerequisites: MATH 125. Notes: Course meets SGR #5.

**MATH 230 - Sophomore Seminar Credits: 1**
This course will provide students with an introduction to the types of problems they would solve in each of the various broad groups of careers in which mathematics majors typically find employment. Prerequisites: MATH 125.

**MATH 245 - Mathematics for Primary Grades I Credits: 3**
An introduction designed for students in the early childhood education program to develop an advanced understanding of the nature of mathematics, with an introduction to geometry concepts, measurement, problem solving, probability, statistics, and other topics. This course does not satisfy the mathematics general education requirement nor any mathematics area requirements other than those for a degree in early childhood education. Prerequisites: MATH 103 or MATH 114 or MATH 115 or MATH 120 or MATH 121-121L or MATH 123 or MATH 125 or STAT 281.

**MATH 250 - Introduction to Linear Algebra and Proof Credits: 3**
Topics include systems of linear equations, matrices, and determinants; logical connectives, quantifiers, and arguments; set operations, index sets, relations, functions, cardinality, and proof techniques. Prerequisites: MATH 121-121L or MATH 123.

**MATH 253 - Logic, Sets, and Proof Credits: 4**
Topics include logical connectives, quantifiers, and arguments; set operations, index sets, relations, functions, cardinality, and proof techniques. These topics will be introduced with a emphasis on using them to read, understand, evaluate, and create Mathematical Proofs. Prerequisites: MATH 125 and MATH 250.

**MATH 261 - Geometry for Teachers Credits: 3**
Axiomatic development of Euclidean and other geometries, coordinate geometry in two or three dimensions, transformational geometry, and informal Non-Euclidean geometry. Required of majors and minors planning to teach. Prerequisites: MATH 125 and EDFN 101.

**MATH 291 - Independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**MATH 292 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**MATH 315 - Linear Algebra (COM) Credits: 4**
Course topics include: the theory and applications of systems of linear equations, matrices, determinants, vector spaces, linear transformations and applications. Prerequisites: (MATH 123 and MATH 201) or MATH 225 or MATH 250.

**MATH 316 - Discrete Mathematics (COM) Credits: 3**
Selected topics from Boolean algebra, set theory, logic, functions and relations, difference equations, recurrence relations, application of algorithms, finite graphs, trees, paths and modeling. Prerequisites: (MATH 123 and MATH 201) or MATH 225 or MATH 250 or MATH 253.

**MATH 321 - Differential Equations (COM) Credits: 3**
Selected topics from ordinary differential equations including development and applications of first order, higher order linear and systems of linear equations, general solutions and solutions to initial-value problems using matrices. Additional topics may include Laplace transforms and power series solutions. Prerequisites: MATH 125.

**MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3**
Fourier series, vector analysis, matrices, determinants, and topics selected from: complex variables, partial differential equations, numerical methods. Prerequisites: MATH 321.

**MATH 345 - Mathematics for Primary Grades II Credits: 3**
A second course for students in the early childhood education program to develop an advanced understanding of the nature of mathematics, with an introduction to the structure of mathematics and its application to teaching Birth to Age 8 mathematics including such topics as logic, number systems, and consumer mathematics. Prerequisites: MATH 103 or MATH 114 or MATH 120 or MATH 121-121L or MATH 123 or MATH 125 or STAT 281.

**MATH 355 - Methods of Teaching Mathematics Credits: 4**
Techniques, materials and resources for teaching mathematics to junior high school and high school students. Required of majors and minors planning to teach. May not be used for upper division math elective for majors not in Secondary Teaching Option. Prerequisites: MATH 125, MATH 261 and EDFN 352.

**MATH 361 - Modern Geometry (COM) Credits: 3**
In this course topics will be chosen from: axiomatic systems, finite geometries, Euclidean plane geometry, transformational geometry, three dimensional geometry, and non-Euclidean geometries. Prerequisites: (MATH 123 and MATH 201) or MATH 125.

**MATH 371 - Technology for STEM Educators Credits: 2**
Provides students pursuing teaching certification in STEM fields with instructional technology tools commonly used in K-12 STEM classrooms.

**MATH 374 - Scientific Computation I Credits: 3**
An introduction to the use of computers for solving mathematical problems originating in scientific application areas. Topics will include a discussion of rounding errors, and practical aspects of writing programs for problems such as solving nonlinear equations, approximating integrals and finding local minima. Prerequisites: CSC 150 and MATH 125.

**MATH 401 - Senior Capstone Credits: 1-2**
Two semester course: In the first semester, students will carry out activities which are designed to refresh mathematics skills and develop skills such as research, writing, and presenting which will prepare them for the second semester in which they will write a major paper under faculty supervision and give a presentation based on that paper.

**MATH 413 - Abstract Algebra I (COM) Credits: 3**
Introduction to the theory and applications of algebraic structures including groups, rings, and fields. Prerequisites: MATH 253 or MATH 315 or MATH 316 or MATH 351 or CSC 251.

**MATH 415-515 - Advanced Linear Algebra (COM) Credits: 3**
Advanced topics in linear algebra. This course may cover topics useful in such applications as matrix factorizations, finite element methods, multivariable statistics, stochastic models, and parallel programming for scientific computations. Prerequisites: MATH 315.

**MATH 425 - Real Analysis I (COM) Credits: 3**
Properties of real numbers, sequences, and series of real numbers, limits of functions, uniform continuity, differentiation, sequences and series of functions, uniform convergence, and theories of integration. Extensions of R^n may be considered. Prerequisites: MATH 225 and (MATH 253 or MATH 351).

**MATH 426 - Real Analysis II Credits: 3**
This is continuation of MATH 425. Prerequisites: MATH 425.

**MATH 432 - Partial Differential Equations (COM) Credits: 3**
Fourier series, partial differential equations, Frobenius series, Bessel functions, and transform methods. Prerequisites: MATH 225 and MATH 321.

**MATH 433 - Capstone: Mathematics Education Credits: 3**
In this course, prospective teachers examine high school mathematics topics from an advanced point of view. The topics include, but are not limited to: real and complex numbers, functions, equations, mathematical induction, and trigonometry. Required of majors planning to teach. May not be used for upper division math elective for majors not pursuing Secondary Teaching Option. Prerequisites: MATH 253 and EDFN 101.

**MATH 434 - Assessment in STEM Education Credits: 1**
Students in STEM Education programs will cover assessment topics including, but not limited to standards based grading, writing and using rubrics, traditional and non-traditional assessments, collecting data, determining how to use assessment to modify instruction, using data for research, standardized testing. Students should be in the Secondary Education Certification Program and a STEM major.

**MATH 435-535 - Complex Variables I Credits: 3**
Algebra of complex numbers, classifications of functions, differentiation, integration, mapping, transformations, infinite series. Prerequisites: MATH 225.

**MATH 440 - Mathematics of Finance (COM) Credits: 3**
An introduction to the fundamental concepts of financial mathematics. Topics include simple and compound interest, annuities, amortization, sinking funds, bonds, stocks, rates of return, term structure of interest rates, cash-flow duration and immunization. Prerequisites: MATH 225.

**MATH 450 - History of Mathematics (COM) Credits: 3**
A general presentation of historical topics in mathematics including contributions to mathematics from ancient civilizations; developments leading to the creation of modern geometries, calculus and modern algebra; and contributions of outstanding mathematicians. Prerequisites: MATH 125.

**MATH 471-571 - Numerical Analysis I (COM) Credits: 3**
Analysis of rounding errors, numerical solutions of nonlinear equations, numerical differentiation, numerical integration, interpolation and approximation, numerical methods for solving linear systems. Prerequisites: MATH 225.

**MATH 475-575 - Operations Research (COM) Credits: 3**
An introductory overview of the field of operations research including topics from linear programming, simplex methods, network models, nonlinear programming, game theory, Markov Chains, introduction to dynamic programming, queuing theory and simulation. Prerequisites: MATH 315 or MATH 281 and MATH 125.

**MATH 491-591 - Independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**MATH 492-592 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**MATH 494 - Internship (COM) Credits: 1-6**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**MATH 541 - Applied Probability Theory Credits: 3**

**MATH 625 - Advanced Calculus Credits: 3**

**MATH 675 - Operations Research II Credits: 3**

**MATH 691 - Independent Study (COM) Credits: 1-3**

**MATH 716 - Theory of Algebraic Structures I Credits: 3**

**MATH 741 - Measure and Probability Credits: 3**

**MATH 751 - Applied Functional Analysis Credits: 3**

**MATH 770 - Numerical Linear Algebra Credits: 3**

**MATH 771 - Numerical Analysis II Credits: 3**

**MATH 773 - Numerical Optimization Credits: 3**

**MATH 779 - Advanced Mathematics Synthesis Credits: 1**

**MATH 788 - Research Paper Credits: 1-2**

**MATH 791 - Independent Study (COM) Credits: 1-4**

**MATH 792 - Topics (COM) Credits: 1-4**

**MATH 798 - Thesis (COM) Credits: 1-7**

## MCOM (Mass Communication)

**MCOM 119 - First-Year Seminar in Communication and Journalism Credits: 2**
This course introduces students to the field of communication and mass media. Students will explore foundational skills and examine curriculum, co-curricular activities, and career options.

**MCOM 145 - Media Literacy and Ethics Credits: 3**
Media Literacy is the ability to access, analyze, evaluate and communicate information in a variety of formats. This class explores how the mass media help construct social reality and how media use identifiable techniques to communicate messages. Topics include media theories, ethical principles associated with media programming and the roles of media producers and consumers. A key component for the course is to determine were social responsibility lies in relationship to the mass media.

**MCOM 151 - Introduction to Mass Communication (COM) [SGR #4] Credits: 3**
A comprehensive look at the mass media in the United States and the world. Includes discussions of newspapers, magazines, radio, television, books, movies, recordings, advertising and public relations. Also studies mass media rights and responsibilities, ethics and censorship. Notes: Course meets SGR #4.

**MCOM 160 - Introduction to Film [SGR #4] Credits: 3**
Film as art; themes and inventions; films and society; introduction to the camera. Notes: Course meets SGR #4.

**MCOM 210-210L - Basic Newswriting and Lab (COM) Credits: 3**
Introduces students to gathering, evaluating and writing news. Lab accompanies MCOM 210. Prerequisites: ENGL 101.

**MCOM 215 - Sportswriting (COM) Credits: 3**
Interviewing, reporting, writing, and editing sports stories combined with an exploration of sportswriting as a career. Prerequisites: MCOM 210-210L.

**MCOM 219 - Social Media Strategies Credits: 3**
This course explores fundamental strategies for effective social media messaging. Content includes audience engagement, design, ethical considerations, visual storytelling, targeted writing and hands-on projects.

**MCOM 220-220L - Introduction to Digital Media and Lab (COM) Credits: 3**
An introduction to the basics of digital imagery and design for the news media, and hands-on application of the basics of news media digital communication. Corequisites: MCOM 220L-220.

**MCOM 265-265L - Basic Photography and Lab (COM) Credits: 3**
Basic camera, imaging, printing and processing techniques used in making and preparing photographs for publication and presentation, including a discourse and/or practical usage of the beginning aspects of photography. Lab accompanies MCOM 265.

**MCOM 266-266L - Photojournalism and Studio (COM) Credits: 3**
Photography as it relates to the media and the public. Emphasis on the content and design of photo essays, legal and ethical aspects of photography. Studio accompanies MCOM 266. Prerequisites: MCOM 210 or MCOM 265.

**MCOM 270 - Data Analysis in Communication Credits: 3**
The course is designed to give students a foundational knowledge of statistics and data analysis as it pertains to communication and journalism disciplines. Students will learn how to analyze data using tools that are widely used in industry. Using data to tell a story through data visualization is also covered in this course.

**MCOM 292 - Topics (COM) Credits: 1-3**
Includes Current Topics, Advanced Topics and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of ten (10) or fewer students with significant one-on-one student/teacher involvement.

**MCOM 311-311L - News Editing and Editing Lab (COM) Credits: 3**
The evaluation and editing of news stories, with an examination of editing problems, copy reading techniques, page makeup and design, headlines, picture usage, legal and ethical issues. Comprehensive experience in a laboratory setting with editing techniques. Students work with associated press wire service copy, electronic page design and layout techniques, picture editing and page composition. Prerequisites: MCOM 210. Corequisites: MCOM 311L-311.

**MCOM 316 - Magazine Writing and Editing Credits: 3**
Includes overview of the magazine industry, how to write and submit freelance articles. Students write and submit articles for publication and edit a departmental magazine.

**MCOM 317 - Multimedia Reporting (COM) Credits: 3**
Builds on the skills and concepts introduced in Basic Newswriting by providing additional experience in beat coverage, initiating story ideas, news judgment, verifying and developing information, and writing stories for publication, broadcast or online delivery. Prerequisites: MCOM 210.

**MCOM 331-331L - Video Production and Lab (COM) Credits: 3**
Training in field production and post-production skills for television and online media including camera operation, audio acquisition and nonlinear editing. Lab accompanies MCOM 331.

**MCOM 333-333L - Broadcast News Reporting and Lab Credits: 3**
Broadcast news videography, reporting, writing, podcasting, audio recording, and audio and video editing. Laboratory to accompany MCOM 333. Prerequisites: MCOM 210 and MCOM 331. Corequisites: MCOM 333L-333.

**MCOM 336 - Feature Writing Credits: 3**
Writing in-depth feature articles for publication is the focus of this class. It will provide advanced skills and techniques in reporting and writing human interest stories and techniques in reporting and writing human interest stories that appeal to a wide variety of audiences. Prerequisites: MCOM 210-210L.

**MCOM 339-339L - Publication Design and Lab Credits: 3**
This course covers the principles of page design including the editing of photos, typography and graphics for print and online publications. Prerequisites: MCOM 220 or MCOM 225 or MCOM 265. Corequisites: MCOM 339L-339.

**MCOM 359-359L - Mobile Media Design and Applications and Lab Credits: 3**
This course applies effective digital production principles to a series of increasingly complex projects. Prerequisites: MCOM 220 or MCOM 225. Corequisites: MCOM 359L-359.

**MCOM 365-365L - Advanced Photography and Lab (COM) Credits: 3**
Exploration of photojournalism and electronic photojournalism. Emphasis on putting together a professional photojournalism portfolio including black and white and color. Lab accompanies MCOM 365. Prerequisites: MCOM 265.

**MCOM 366 - Film Narrative Credits: 3**
Myths, values and beliefs as expressed in selected films; forms, styles, and directors.

**MCOM 392 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually 10 or fewer students with significant one-on-one student-teacher involvement.

**MCOM 394 - Internship (COM) Credits: 1-12**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**MCOM 410 - Advanced Reporting (COM) Credits: 3**
Political, scientific, and social issues in in-depth reporting for magazines and newspapers.

**MCOM 413-513 - International Media (COM) Credits: 3**
This course is a survey of international media systems, news and related issues, the role and characteristics of international journalists, and issues facing media around the world.

**MCOM 416-516 - Mass Media in Society Credits: 3**
Rights and responsibilities of the press; relation of the media to individuals and society; role of media in a free society.

**MCOM 417-517 - History of Journalism Credits: 3**
Development, impact and importance of individual journalists and media in U.S.

**MCOM 419-519 - Women in Media Credits: 3**
This course examines contributions of women to the mass media from colonial era to present. It also studies the portrayal of women by the news media and by advertising, and it studies the roles currently played by women in the media and in supporting areas of advertising and public relations. Cross-Listed: WMST 419-519.

**MCOM 430-530 - Media Law (COM) Credits: 3**
Study of the sources, processes, content and application of law and regulation in the mass communication context and of the ethics of communications practitioners.

**MCOM 431-431L - Advanced Media Production and Lab Credits: 3**
Capstone of Media Production specialization. Integrates multiple aspects of media production and online delivery of media content. Prerequisites: MCOM 331. Corequisites: MCOM 431L-431.

**MCOM 433-433L - Advanced Broadcast News Reporting and Lab Credits: 3**
In-depth analysis and production of broadcast news, with training in videography, reporting, writing, podcasting, audio recording, and audio and video editing. Laboratory to accompany MCOM 433. Prerequisites: MCOM 331 and MCOM 333. Corequisites: MCOM 433L-433.

**MCOM 434 - Advanced Multiplatform Storytelling (COM) Credits: 3**
This course is designed to provide students with a background in the practice, techniques, and theories of newsroom management in a multimedia world. Students further their multimedia storytelling skills through video, audio, online, and interactive journalism applications, study the organization of stories according to news values and the legal and ethical responsibilities of the news producer and reporter. Prerequisites: MCOM 331-331L or MCOM 334.

**MCOM 438-438L - Public Affairs Reporting and Lab Credits: 3**
Covering and writing news on legislation, public policy, and social issues at the local, county, and state level. Includes discussion of freedom of information guidelines. Lab accompanies MCOM 438. Prerequisites: MCOM 210. Corequisites: MCOM 438L-438.

**MCOM 474-574 - Media Administration and Management Credits: 3**
Business practices, newspaper, magazine, and broadcast management.

**MCOM 485-585 - Science Writing (COM) Credits: 3**
This class explores the process of science writing and examines various kinds of science writing through readings, guest speakers, and writing assignments. A key emphasis is how to present scientific information to a lay audience.

**MCOM 490 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**MCOM 491 - Independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**MCOM 492-592 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**MCOM 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**MCOM 615 - Opinion Writing Credits: 3**

**MCOM 653 - Mass Communication Teaching Methods Credits: 1-4**

**MCOM 691 - Independent Study (COM) Credits: 1-3**

**MCOM 692 - Topics (COM) Credits: 1-3**

**MCOM 693 - Workshop (COM) Credits: 1-4**

**MCOM 705 - Introduction to Master of Mass Communication Credits: 3**

**MCOM 710 - Cross-Platform Storytelling Credits: 3**

**MCOM 730 - Media Law Case Studies Credits: 3**

**MCOM 746 - Cross-Platform Campaigns Credits: 3**

**MCOM 761 - Social Media Management Credits: 3**

**MCOM 785 - Health Journalism Credits: 3**

**MCOM 786 - Conducting Professional Research Credits: 3**

**MCOM 788 - Master's Research Problems/Projects (COM) Credits: 2-3**

**MCOM 791 - Independent Study (COM) Credits: 1-3**

**MCOM 794 - Internship (COM) Credits: 1-3**

**MCOM 795 - Practicum (COM) Credits: 3**

**MCOM 798 - Thesis (COM) Credits: 1-6**

## ME (Mechanical Engineering)

**ME 121-121L - Production and Fabrication Processes and Lab Credits: 2**
Overview of manufacturing production and fabrication processes from an engineering design viewpoint. Topics include: cutting, forming, shaping and finishing raw materials; fastening and joining techniques; advanced manufacturing methods; precision measurement and layout. Corequisites: ME 121L-121.

**ME 212-212L - Mechanical Engineering Design Technologies and Lab Credits: 2**
This course provides an introduction to several mechanical engineering design technologies and computer-aided tools that ME students will use throughout their coursework. Students will be introduced to engineering graphics, including freehand sketching, 2D/3D computer aided drafting (CAD) and graphical presentations of designs (views, sections, dimensioning, and tolerancing). Computer-aided engineering tools for solving complex mathematical systems will also be presented. Prerequisites: MATH 115 or instructor consent. Corequisites: ME 212L-212.

**ME 230-230L - Engineering Design Methods and Lab Credits: 2**
Introduction to the engineering design process, including development of the problem statement, modeling, research, cost/benefit analysis, and interaction of system components. Design optimization techniques will be used to drive design decisions. The course will incorporate consideration of economic, social, environmental and manufacturing constraints within the engineering design process. Design projects will be used to instill these concepts. Prerequisites: EM 214, ME 121-121L, and ME 212-212L. Corequisites: ME 230L-230.

**ME 240 - Introduction of Mechanical Design Credits: 3**
Introduction to the design process, statement of problem, modeling, research, interaction of system components. Economic, social, and environmental limitations; and manufacturing processes and constraints. Factors of safety, reliability. Utilization of engineering software for graphics and vector methods in mechanical design. Design project. Prerequisites: EM 214.

**ME 241 - Engineering Materials Credits: 3**
Structure of materials, including atoms, perfect and imperfect crystals and phases. Diffusion mechanisms. Mechanical properties, dislocations and strengthening mechanisms. Failure theory. Phase diagrams and phase transformations in metals, including development of microstructure and alteration of mechanical properties. Applications and processing of metal alloys, ceramics, polymers and composites. Prerequisites: MATH 123 and CHEM 112.

**ME 311 - Thermodynamics I Credits: 3**
Thermodynamic properties of gases, vapors and mixtures. Zeroth, First and Second Laws of Thermodynamics. Entropy. Availability and irreversibility. Prerequisites: PHYS 211 and EM 215.

**ME 312 - Thermodynamics II (COM) Credits: 3**
Thermodynamic power cycles using vapors and gases. One-dimensional compressible flow. Energy analysis. Refrigeration cycles. Moistures and psychrometry. Maxwell's relations. Combustion and thermochemistry. Prerequisites: (ME 211 and ME 221) or (ME 311 and MATH 321).

**ME 314 - Thermodynamics Credits: 3**
Terminal course for non-mechanical engineering students. Fundamental equations of thermodynamics. Properties of gases and vapors. Thermodynamic cycles. Introduction to heat transfer. Prerequisites: PHYS 211 and MATH 125.

**ME 321 - Fundamentals of Machine Design Credits: 3**
Analysis of motion and design of linkages, cams, gears, gear trains, planetary gear trains. Analytic and graphical solution of positions, velocities, accelerations, static and dynamic forces. Balancing of engine mechanism, flywheels analysis. Synthesis of planar mechanisms and introduction to spatial mechanisms. Computer applications. Prerequisites: EM 215.

**ME 323 - Vibrations Credits: 3**
Free and forced vibration of single-degree-of-freedom system. Vibration measurement. Vibration transmission and isolation. Multi-degree-of-freedom systems, matrix methods, vibration control and damping treatments. Introduction to continuous systems. Prerequisites: EM 215, EM 321 and MATH 331 or MATH 471.

**ME 341-341L - Metallurgy and Lab Credits: 3**
Crystalline structure and physical properties of metals, phase transformation diagrams, effect of mechanical or thermal treatment on grain structure of ferrous and non ferrous alloys. Laboratory demonstrates fundamental principles and presents necessary techniques of metallography. Prerequisites: ME 241. Corequisites: ME 341L-341.

**ME 362 - Industrial Engineering Credits: 3**
Modern industrial engineering. Planning, organizing and directing industrial enterprises. Quantitative analysis of management problems in production planning and control, quality control, reliability, facility planning, project economics and PERT. Applications and examples from realistic situations. Prerequisites: STAT 381 or consent.

**ME 376-376L - Measurements and Instrumentation and Lab Credits: 2**
Instruments for measuring pressure, temperature, flow, strain, vibration and sound. Experimental data analysis for accuracy, error and uncertainty. Prerequisites: ENGL 277. Corequisites: ME 376L-376, EM 321 and EM 331.

**ME 410-510 - Principles of HVAC Engineering Credits: 3**
Comfort and health requirements for space conditioning. Psychrometrics, steady-flow processes involving air-vapor mixtures. Heating and cooling load calculations. Basic air conditioning systems. Emphasis on systems design approach. Prerequisites: EM 331, ME 312 and ME 314. Corequisites: ME 415 or consent.

**ME 412-512 - Internal Combustion Engines Credits: 3**
Theory, design and operation of spark ignition and compression-ignition engines. Performance characteristics and efficiencies; combustion and thermochemistry of fuel-air mixture exhaust emissions as they pertain to air pollution. Prerequisites: EM 331 and ME 312.

**ME 413-513 - Turbomachinery Credits: 3**
Theory, design, operation and energy transfer in Turbo-machines. Steam, gas and hydraulic turbines. Pumps, fans and centrifugal and axial flow compressors. Prerequisites: EM 331 and ME 312.

**ME 414-514 - Air Pollution Control Credits: 3**
Control of particulates and gaseous pollutants. Design and operating characteristics of gravity settlers, cyclones, electrostatic precipitators, fabric filters, scrubbers, incinerators, adsorption beds and absorption towers. Prerequisites: ME 311.

**ME 415 - Heat Transfer Credits: 3**
Basic principles of steady and unsteady conduction, convection of heat and mass transfer and thermal radiation. Computational methods of heat transfer. Prerequisites: ME 311, EM 331 and MATH 321;or consent.

**ME 416-516 - Renewable Energy Systems Credits: 3**
Students will learn to apply the principles of energy conversion, energy conservation, and value engineering to the analysis of energy conversion systems, renewable energy generation equipment and systems. Students will become familiar with energy consumption requirements for conventional systems and the applications of renewable energy systems to provide alternative energy sources. Energy efficiency and global environmental sustainability are emphasized. A background in basic thermodynamics is assumed. Prerequisites: ME 311, ME 314 or PHYS 341.

**ME 417-417L/517-517L - Computer-Aided Engineering and Lab Credits: 3**
Introduction to applied structural and thermal design and analysis using the ANSYS finite element software package. One-, two- and three-dimensional static structural problems modeled using the direct generation method as well as solid modeling techniques. Steady-state and transient thermal analysis are performed. Thermally-induced stressed and displacements that occur in non-uniform temperature structures, solutions of two- or three-dimensional fluid mechanics problems, and optimization techniques are discussed. Corequisites: ME 417L-417.

**ME 418-518 - Design of Thermal Systems Credits: 3**
Systems approach to design, mathematical modeling, simulation and optimization of systems, with particular emphasis on thermal systems. Prerequisites: ME 312, ME 415 and EM 331.

**ME 421 - Design of Machine Elements Credits: 3**
Fundamentals of mechanics. Energy methods. Working stresses and failure in materials. Design considerations of basic machine elements – shafts, springs, belts, clutches, brakes, chains, gear, bearings, fasteners and flywheels. Lubrication. Classification of engineering materials. Prerequisites: EM 321 and ME 321.

**ME 431-531 - Aerodynamics Credits: 3**
Airfoil characteristics, wing shapes, static and dynamic forces, viscosity phenomena, boundary layer theory, flaps and slots, propellers, stability, control and performance. Prerequisites: EM 331.

**ME 433-433L/533-533L - Non-Destructive Testing and Evaluation and Lab Credits: 3**
Various non-destructive testing techniques will be introduced with emphasis on ultrasound techniques. For ultrasound, physical principles of acoustic waves in solid media will be introduced, and acoustic sensor design and properties will be discussed. For other techniques, including eddy current techniques, X-ray techniques, acoustic emission, etc., basic physics of the method and modern applications will be introduced. Experiments and demonstrations will be conducted to enhance students' understanding of the concepts and applications. Prerequisites: EM 215, EM 321 and MATH 321.

**ME 437-537 - Gas Dynamics I Credits: 3**
Objectives, applications, and scope of the subject. Methods of fluid dynamics and thermodynamics. Compressible flow in ducts, nozzles and diffusers. Propagation of plane waves; shock dynamics, characteristics, interaction of waves. General theorems of gas dynamics. Prerequisites: EM 331 and MATH 331.

**ME 438-438L - Machine Design-Case Studies and Lab Credits: 3**
Study of stress and strain as applied to mechanical engineering problems. Residual stresses and dynamic loading. Theories of failure. Design of components that form a complete working system. Design analysis of various current case studies. Prerequisites: EM 321. Corequisites: ME 438L-438.

**ME 439-439L/539-539L - HVAC System Design and Lab Credits: 3**
Analysis of heating, ventilating and air conditioning requirements. Design of heating, ventilating and air conditioning systems. Economic, energy and environmental considerations. Use of computers as design aids. Prerequisites: ME 410-510 or consent. Corequisites: ME 439L-439.

**ME 440-540 - Numerical Methods for Engineering Design Credits: 3**
The use of digital computer as a design tool. Techniques and algorithms which increase the rationality of the design process. Design principles and optimization theory. General approach to constrained optimization. Probabilistic approaches to design. Computer-aided design to reliability specification. Application of computer graphics to engineering design. The emphasis is on extending the designer's potential and not on automating those activities.

**ME 441-541 - Robotic Systems Credits: 3**
This course develops understanding of the kinematic and dynamic modeling, design, and control of robots functioning in both terrestrial and aerial environments. Topics include inertial and body reference frames, rigid body motion, homogeneous transformations, Denavit-Hartenberg representation, forward and inverse kinematics, Lagrangian dynamics, modeling in Simulink, linear control design, introduction to advanced controllers, optimal control of a quadrotor. Students conduct hands-on experiments with mobile robots, manipulators and quadrotors. Prerequisites: ME 321.

**ME 442-542 - Applications of Computational Fluid Dynamics Credits: 3**
This course provides a background and working knowledge of software analysis tools, techniques and methodologies utilized in modern engineering practice in computational fluid dynamics (CFD). The course builds upon fundamental concepts of thermodynamics, fluid mechanics, and computer-aided design and analysis and applies these principles within high-fidelity computational models to solve theoretical and practical problems commonly encountered with thermal fluid and energy systems. This course provides students with team-centered collaborative opportunities to practice CFD analysis in engineering design applications. Prerequisites: MATH 321, EM 331 and ME 311.

**ME 446-546 - Engineering Mechanics in Biomedical Applications Credits: 3**
This course focuses on biomedical applications of the principles of engineering mechanics. The concepts of kinematics, dynamics, thermal-fluid system analysis, and transport phenomena are applied in developing engineering models of various aspects of anatomy and physiology and in the design of prosthetics and biomedical devices. Topics include biomechanics; engineering properties of biomaterials; computer applications in medicine; research and development in biomedical engineering; and ethics at the nexus of medicine and engineering. Prerequisites: EM 331 and ME 321.

**ME 448-548 - Mechanical Behavior of Biomaterials Credits: 3**
The course explores the field of biomaterials with a focus on response to static and dynamic forces, structure-property correlation, and experimental techniques for biomedical applications. Material topics include mammalian tissue (skin, artery, muscle, bone etc.), interaction with properties of implant materials (metal, polymer, ceramic etc.) and related regulatory issues in material selection and design for medical implants. Students will learn through literature review, case studies, homework, labs and projects. Prerequisites: ME 241 or instructor consent.

**ME 451 - Automatic Controls Credits: 3**
Modeling of mechanical, electrical, hydraulic and pneumatic systems. Laplace transform and system response. Transfer functions; control systems and frequency response. System analysis using polar, logarithmic and Root locus plots. System compensation. Introduction to nonlinear controls. Prerequisites: EE 300-300L, MATH 331 or MATH 471.

**ME 452 - Dynamic Systems Lab Credits: 1**
Experiments in mechanical vibration, control and robotics. Force and acceleration measurements, free and forced vibrations of systems, response of mechanical systems, stability of a feedback control system, performance of compensators. Prerequisites: ME 323.

**ME 461-561 - Analysis and Design of Industrial Systems Credits: 3**
Problems in product design and development, marketing, forecasting, capacity evaluation, plant layout, materials handling from standpoint of interrelated and integrated systems. Prerequisites: ME 362.

**ME 476 - Thermo-Fluids Lab Credits: 1**
Experiments in fluid mechanics, thermodynamics and heat transfer. Single and multi-stage compressors. Heat pumps and air conditioning. Blowers and flow measurements in ducts. Prerequisites: ME 312, ME 376, ME 415 and EM 331.

**ME 478 - Mechanical Systems Design I Credits: 2**
A systems approach to design, covering need analysis, design phases, design processes, economics, optimization, and success criteria. Students will design, build, and test an independent project which must be different than any previous design they have attempted. Prerequisites: ME 421; and MATH 331 or MATH 471.

**ME 479-479L - Mechanical Systems Design II and Lab (COM) Credits: 2**
The second semester continuation of Mechanical Systems Design. Integrates concepts from all areas in Mechanical Engineering into a practical design project. Detailed design and analysis, manufacturing, and assembly will be the focus. Prerequisites: ME 477 or ME 478.

**ME 490-590 - Seminar (COM) Credits: 1-2**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division graduate levels. Enrollment is generally limited to few than 20 students.

**ME 491 - Independent Study (COM) Credits: 1-5**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**ME 492-592 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**ME 494 - Internship (COM) Credits: 1-3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**ME 496 - Field Experience (COM) Credits: 1-3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**ME 497 - Cooperative Education (COM) Credits: 1-3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**ME 498 - Undergraduate Scholarship/Research (COM) Credits: 1-3**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**ME 691 - Independent Study (COM) Credits: 1-5**

**ME 692 - Topics (COM) Credits: 1-3**

**ME 700 - Graduate Colloquium Credits: 0**

**ME 703 - Thermo-Fluid Energy Systems Credits: 3**

**ME 711 - Advanced Heat Transfer I Credits: 3**

**ME 712 - Convection Heat Transfer Credits: 3**

**ME 721 - Viscous Flow I Credits: 3**

**ME 731 - Advanced Analytical Methods Credits: 3**

**ME 735-735L - Modeling and Simulation and Lab Credits: 3**

**ME 739 - Advanced Metallurgy Credits: 3**

**ME 741 - Advanced Stress Analysis in Mechanical Design Credits: 3**

**ME 745 - Advanced Machine Design Credits: 3**

**ME 760 - Quality Control Credits: 3**

**ME 761 - Operations Research Credits: 3**

**ME 763 - Topics in Reliability Engineering Credits: 3**

**ME 765 - Systems Analysis Credits: 3**

**ME 767 - Decision Theory Credits: 3**

**ME 787 - Research Credits: 1-9**

**ME 788 - Master's Research Problems/Projects (COM) Credits: 1-2**

**ME 790 - Seminar (COM) Credits: 1**

**ME 791 - Independent Study (COM) Credits: 1-3**

**ME 792 - Topics (COM) Credits: 1-3**

**ME 798 - Thesis (COM) Credits: 1-9**

**ME 898D - Dissertation (COM) Credits: 1-12**

## MGMT (Management)

**MGMT 325 - Management Information Systems (COM) Credits: 3**
Introduction to the application of information technology in organizations, roles of managers and staff professionals in developing and using information systems with current and future technology. Cross-Listed: CSC 325.

**MGMT 334 - Small Business Management (COM) Credits: 3**
This course applies business policies and procedures to the small business environment. As such, it is designed for students contemplating management or ownership of a small business. Topics include the nature of the entrepreneur, financing and ownership options, marketing, government regulations, taxation, inventory control and other relevant business functions. Cross-Listed: BADM 334.

**MGMT 360 - Organization and Management (COM) Credits: 3**
This course is a study of management, including the planning, direction, controlling and coordinating of the various activities involved in operating a business enterprise. Cross-Listed: BADM 360.

**MGMT 464 - Organizational Behavior (COM) Credits: 3**
This course is a study of individuals and groups. Traditional organization theory and concepts are presented and study is given to motivation, group dynamics, and methods of coordination, change and adaptation within an organization. Prerequisites: BADM/MGMT 360. Cross-Listed: BADM 464.

**MGMT 482 - Business Policy and Strategy (COM) Credits: 3**
This course is designed to develop an understanding of strategy formulation, implementation, and evaluation. It involves integrating all functional areas of business, analyzing the environment in which the firm operates, and choosing strategies that enable the firm to meet its objectives. Prerequisites: BADM/FIN 310, BADM/BLAW 350, BADM/ECON/MKTG 370, and (BADM/MGMT 360 or BADM 369). Cross-Listed: BADM 482.

**MGMT 490-590 - Seminar (COM) Credits: 1-3**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students.

**MGMT 491-591 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**MGMT 492-592 - Topics (COM) Credits: 1-4**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**MGMT 494-594 - Internship (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**MGMT 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**MGMT 596 - Field Experience (COM) Credits: 1-3**

**MGMT 751 - Advanced Managerial Economics Credits: 3**

**MGMT 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**MGMT 792 - Topics (COM) Credits: 1-4**

## MFL (Modern Foreign Languages)

**MFL 101 - Introduction to Foreign Language and Culture I (COM) [SGR #4] Credits: 4**
Fundamentals of the language and introduction to the culture where the language is spoken. Class work may be supplemented with required aural/oral practice outside of class. Notes: Course meets SGR #4.

**MFL 102 - Introduction to Foreign Language and Culture II (COM) [SGR #4] Credits: 4**
Fundamentals of the language and introduction to the culture where the language is spoken. Class work may be supplemented with required aural/oral practice outside of class. Notes: Course meets SGR #4.

**MFL 192 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**MFL 196 - Field Experience (COM) Credits: 1-3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**MFL 201 - Intermediate Modern Foreign Language I (COM) Credits: 1-8**
Intermediate language and culture study. Qualifying languages are those not currently offered on campus. Prerequisites: MFL 101 and MFL 102.

**MFL 202 - Intermediate Modern Foreign Language II (COM) Credits: 1-8**
Intermediate language and culture study. Qualifying languages are those not currently offered on campus. Prerequisites: MFL 201.

**MFL 296 - Field Experience (COM) Credits: 1-12**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**MFL 396 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**MFL 420 - K-12 Foreign Language Methods (COM) Credits: 3**
Methods and materials for teaching modern languages in high school.

**MFL 491-591 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**MFL 492-592 - Topics (COM) Credits: 3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**MFL 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**MFL 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

## MICR (Microbiology)

**MICR 231-231L - General Microbiology and Lab (COM) [SGR #6] Credits: 4**
Principles of basic and applied microbiology. Laboratory experience that accompanies MICR 231. Prerequisites: CHEM 106 or CHEM 112. Corequisites: MICR 231L-231. Notes: Course meets SGR #6.

**MICR 233-233L - Introductory Microbiology and Lab Credits: 4**
Introductory microbiology course for biology, microbiology and biotechnology majors. Basics of microbial cell structure and function; viral structure; microbial diversity and evolution; interactions between microbes and plants/animals; biogeochemical cycling; microbial growth; and control of microorganisms. The laboratory will include aseptic technique; use of bright-field microscopes; common staining techniques; cultivation of various microbes; investigations of diversity; metabolic characteristics; microbial growth and control of microbial growth/metabolism. Prerequisites: Completion of BIOL 151 and 6 credits college chemistry. Corequisites: MICR 233L-233.

**MICR 290 - Seminar (COM) Credits: 1**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**MICR 310-310L - Environmental Microbiology and Lab Credits: 4**
Microbiology of water, air and surfaces in the environment. Standard methods for detecting and controlling pathogens and non pathogens. Laboratory experience that accompanies MICR 310. Prerequisites: MICR 231-231L or MICR 233-233L. Corequisites: MICR 310L-310.

**MICR 311-311L - Food Microbiology and Lab Credits: 4**
Microbiology of fresh and processed meats, dairy products, vegetables and modern convenience foods. Laboratory quality study of food preservation, processing and spoilage. Laboratory experience that accompanies MICR 311. Prerequisites: MICR 231-231L or MICR 233-233L. Corequisites: MICR 311L-311.

**MICR 332 - Microbial Physiology Credits: 2**
Cytology, nutrition, metabolism, and growth of microorganisms. Prerequisites: MICR 231-231L or MICR 233-233L.

**MICR 332L - Microbial Physiology Lab Credits: 2**
Media preparation, sterilization, microscopy, assay of microbial enzymes, DNA purification.

**MICR 421-421L/521-521L - Soil Microbiology and Lab Credits: 3**
Microbial species of agricultural soils, environmental factors affecting their numbers and activity, and biochemical changes brought about by these organisms. Laboratory course to accompany MICR 421-521. Prerequisites: BIOL 151-151L and BIOL 153-153L, or BOT 201-201L. Corequisites: MICR 421L-421/MICR 521L-521. Cross-Listed: PS 421-421L/521-521L.

**MICR 424-524 - Medical and Veterinary Virology Credits: 3**
Basic course discussing the characterization, structure, and replication of viruses and the pathogenesis of viral disease in man and animals. Prerequisites: AS 332 or BIOL 204. Cross-Listed: VET 424-524.

**MICR 433-533 - Medical Microbiology (COM) Credits: 3**
Principles of medical microbiology including a survey of the most clinically significant bacterial, fungal, parasitic, and viral diseases in the world, with an emphasis on those most prevalent in North America. Case studies will address: morphology, physiology, and virulence of the microbes and the epidemiology, treatment, and prevention of the diseases they cause. Prerequisites: (CHEM 106-106L or CHEM 112-112L) and (MICR 231-231L or MICR 233-233L or BIOL 331).

**MICR 438L - Techniques in Molecular Biology Laboratory Credits: 2**
This laboratory course will provide hands-on experience for the students interested in basic molecular biology techniques, including gene amplification by polymerase chain reaction (PCR), DNA isolation and modification, bacterial transformation, protein expression and detection (Western Blot). Prerequisites: MICR 448-548 (completed or concurrent).

**MICR 439-539 - Medical and Veterinary Immunology Credits: 3**
This course covers the theory and mechanisms of immune-responses as they relate to human and veterinary medicine. Prerequisites: MICR 231 and BIOL 204.

**MICR 440L - Infectious Disease Lab Credits: 3**
This course will involve individualized hands-on training in molecular, cellular, bacteriological, and immunological techniques frequently used in the diagnosis of infectious diseases. Students will be provided with information on principles and fundamentals of various techniques followed by hands-on experience in the lab. Prerequisites: (MICR 424 or VET 424) and MICR 433 and MICR 439.

**MICR 448-548 - Molecular and Microbial Genetics Credits: 4**
This course in molecular genetics will cover the concepts and the molecular mechanisms in genetics of prokaryotic and eukaryotic organisms. Students will study the molecular processes underlying gene structure and function, will learn the major components and their basic structures in molecular genetics, will understand the molecular mechanisms of major biological processes such as gene expression and regulation, and will learn to interpret the results from the literature in molecular genetics. In addition, the course will provide a comprehensive coverage of the common molecular tools and their applications. Prerequisites: BIOL 204 or BIOL 371. Cross-Listed: BIOL 448-548.

**MICR 450 - Applied Microbiology and Biotechnology Credits: 3**
The rapid development of biotechnology techniques and their commercial application continues to be a major economic driver in the twenty-first century. Biotechnology uses living cells or their enzymes to produce chemicals, biomaterials, pharmaceuticals, and energy from renewable biomass feedstocks. This interdisciplinary course will examine theoretical and practical aspects of cell metabolism, metabolic engineering, fermentation and fermentor design, product recovery, process control, energy balances, and economics as related to several current bioprocesses. This course will integrate principles from microbiology, biochemistry, and engineering to provide students with the skills needed to fill roles in research, operations and commercialization. Prerequisites: MICR 231-231L or MICR 233-233L.

**MICR 490-590 - Seminar (COM) Credits: 1-6**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**MICR 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**MICR 492-592 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**MICR 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**MICR 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**MICR 667 - Bacteriology Credits: 3**

**MICR 791 - Independent Study (COM) Credits: 1-4**

**MICR 792 - Topics (COM) Credits: 1-4**

**MICR 798 - Thesis (COM) Credits: 1-7**

## MKTG (Marketing)

**MKTG 370 - Marketing (COM) Credits: 3**
This course introduces the student to the basic concepts and practices of modern marketing. Topics include marketing and its linkages to business, consumer behavior, marketing research, strategy and planning, product and pricing decisions, distributions and promotion decisions, marketing management, and evaluation and control aspects for both consumer and industrial goods. Prerequisites: ECON 201. Cross-Listed: BADM 370.

**MKTG 474 - Personal Selling (COM) Credits: 3**
This course is a study of the skills needed to develop and manage long-term relationships with customers and suppliers. Emphasis is placed on relationship selling, presentation, prospecting, handling objectives and closing techniques with consideration given to differences in the global marketplace. Prerequisites: BADM/MKTG 370. Cross-Listed: BADM 474.

**MKTG 476-576 - Marketing Research (COM) Credits: 3**
This course provides an in-depth study of the primary methodologies of marketing research. Emphasis is placed on collecting, analyzing, interpreting and presenting information for the purpose of reducing uncertainty surrounding marketing and management decisions. Prerequisites: BADM/ECON/MKTG 370 and (BADM 220 or MATH/STAT 281). Cross-Listed: ECON 476-576.

**MKTG 490-590 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**MKTG 491-591 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**MKTG 492-592 - Topics (COM) Credits: 1-4**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**MKTG 494-594 - Internship (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**MKTG 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**MKTG 596 - Field Experience (COM) Credits: 1-3**

**MKTG 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**MKTG 792 - Topics (COM) Credits: 1-4**

**MKTG 793 - Workshop (COM) Credits: 1-3**

## MLS (Medical Laboratory Sciences)

**MLS 201 - Understanding Medical Laboratory Science Credits: 2**
An overview of the allied health profession in Medical Laboratory Science including an introduction to the interdisciplinary emphasis in Hematology and Hemostasis, Microbiology, Immunohematology, Clinical Chemistry, Urinalysis, Immunology, Molecular and General laboratory clinical practice. Provides an introduction to the professional levels of practice, professionalism, ethics and leadership within the field of clinical laboratory practice.

**MLS 301-301L - Hematology I and Lab Credits: 2, 1**
Normal maturation, morphology, and function of blood cells. Application of manual and automated methods/techniques in hematology. Corequisites: MLS 301L-301. Notes: MLS professional program acceptance required.

**MLS 311 - Clinical Chemistry I Credits: 4**
Principles and theory of clinical chemistry including metabolism of biochemical molecules, metabolic disease/dysfunction, electrolyte balance, acid-base balance, instrumentation, quality control, and quality assurance. Prerequisites: CHEM 108-108L or equivalent. Notes: MLS professional program acceptance required.

**MLS 312 - MLT to MLS Transitional Experience Credits: 3**
A review of the introductory content and technical aspects of the medical laboratory science profession included Hematology, Immunohematology, Clinical Chemistry, Phlebotomy, laboratory math and General laboratory clinical practice. Provides a transitional experience for current associate degree laboratory professionals into the advanced courses within the MLS curriculum. Prerequisites: Student must be accepted into the SDSU Upward Mobility Program or advanced placement in the on-campus traditional program.

**MLS 341 - Diagnostic Microbiology I Credits: 3**
Focuses on the principles and methodologies for the recovery of bacteriological agents from complex biological specimens, biochemical identification, general practices in infection control, and the laboratory's role in developing policies and procedures during global events and new threats from emerging pathogens. Notes: MLS professional program acceptance required.

**MLS 341L - Diagnostic Microbiology I Lab Credits: 2**
Supervised laboratory instruction in the principles and methods for the analysis and identification of bacteriological agents from complex biological specimens utilizing various technical applications, instrumentation, and applications in quality control and quality assurance. Notes: MLS professional program acceptance required.

**MLS 368 - Medical Laboratory Science Transfer Credit Credits: 18-41**
Designed to facilitate transfer of students who have completed a one or two year regionally or nationally accredited or certified program in medical laboratory science, clinical laboratory science and /or technician. The purpose is to provide transfer of previous work into an upward mobility option for students who have a commitment to medical laboratory science. Notes: MLS professional program or MLS upward mobility program acceptance required.

**MLS 401 - Hematology II and Hemostasis Credits: 3**
Advanced study of the hematopoietic system and blood cells, including morphology and disease states, such as leukemias, lymphomas, and myeloproliferative disorders. Notes: MLS professional program acceptance required.

**MLS 402L - Advanced Hematology and Hemostasis Lab Credits: 1**
Fundamentals of examining blood and bone marrow slides. Laboratory methods for evaluating hemostatic function. Corequisites: MLS 401. Notes: MLS professional program acceptance required.

**MLS 403 - Diagnostic Immunology Credits: 3**
Discussion of the principles for immunologic mechanisms and serological concepts to the theory of laboratory procedures for the diagnosis of disorders of infectious and immunologic origin, including analysis and evaluation of advanced immunopathology. Notes: MLS professional program acceptance required.

**MLS 403L - Diagnostic Immunology Lab Credits: 1**
Supervised laboratory experience in the principles and methods for the study of the immune system, antigen-antibody reactions and associated clinical laboratory diagnostics. Notes: MLS professional program acceptance required.

**MLS 411-411L - Clinical Chemistry II and Lab Credits: 3, 1**
The principle and theory of clinical chemistry including clinical endocrinology, clinical toxicology, therapeutic drug monitoring, and assessment of metabolic disease/dysfunction using clinical analysis. Methods of analysis in the clinical laboratory; instrumentation, quality control, and quality assurance. Corequisites: MLS 411L-411. Notes: MLS professional program acceptance required.

**MLS 412 - Laboratory Methods Credits: 3**
Anatomy and physiology of vascular system; and techniques for obtaining blood specimens (phlebotomy) including dermal, syringe and vacutainer systems. In addition the course will include specimen processing, infection control, laboratory safety and instruction in good general laboratory practices required within the medical laboratory science field. Notes: MLS professional program acceptance required.

**MLS 412L - Laboratory Methods Lab Credits: 1**
Anatomy and physiology of the vascular system; and techniques for obtaining blood specimens (phlebotomy), including dermal, syringe, and vacutainer systems. In addition, the course will include specimen processing, infection control, laboratory safety, and instruction in good general laboratory practices required within the medical laboratory science field. Notes: MLS professional program acceptance required or Phlebotomy Certificate.

**MLS 431 - Principles of Immunohematology Credits: 2**
The study of red blood cell antigens and their antibodies, including blood grouping and typing, antibody detection and compatibility testing, blood donor screening and component preparation, immunologically related diseases, transplantation, and principles of antigen-antibody based tests. Prerequisites: MLS 403 or equivalent. Notes: MLS professional program acceptance required.

**MLS 431L - Immunohematology Laboratory Credits: 1**
Supervised laboratory experience in the principles and methods for the study of red blood cell antigens and antibodies, includes blood grouping and typing, antibody detection and compatibility testing and blood donor screening. Notes: MLS professional program acceptance required.

**MLS 441 - Diagnostic Microbiology II Credits: 3**
Focuses on the principles and methodologies for the recovery of bacterial, fungal, parasitic, and viral agents from complex biological specimens; biochemical identification; and advanced principles in clinical sensitivity and specificity. Notes: MLS professional program acceptance required.

**MLS 441L - Diagnostic Microbiology II Lab Credits: 2**
Supervised laboratory instruction in the principles and methods for the analysis and identification of bacterial, fungal, parasitic, and viral agents from complex biological specimens utilizing various technical applications, instrumentation, and applications in quality control and quality assurance. Notes: MLS professional program acceptance required.

**MLS 451 - Immunohematology II Credits: 2**
Advanced laboratory in immunohematology including complex incompatibilities, trouble shooting, transfusion medicine, clinical correlations and advanced laboratory methods in immunohematology. Notes: MLS professional program acceptance required.

**MLS 451L - Immunohematology II Lab Credits: 1**
Advanced laboratory in immunohematology including complex incompatibilities, trouble shooting, transfusion medicine, clinical correlations and advanced laboratory methods in immunohematology. Notes: MLS professional program acceptance required.

**MLS 461 - Introduction to Management and Education Credits: 3**
Basic concepts in laboratory management and education. Building critical thinking, problem solving, and professional skills. Notes: MLS professional program acceptance required.

**MLS 468 - Advanced Supervised Clinical Experience I Credits: 1-5**
Off campus supervised clinical experiences administered in conjunction with clinical faculty in SDSU affiliated health care institutions. Emphasis will be on advanced hematology, hemostasis, phlebotomy and immunology. Prerequisites: Acceptance into the MLS upward mobility program or instructor permission.

**MLS 469 - Advanced Supervised Clinical Experience II Credits: 1-5**
Off campus supervised clinical experiences administered in conjunction with clinical faculty in SDSU affiliated health care institutions. Emphasis will be on advanced chemistry, urinalysis, body fluids, diagnostic microbiology and molecular diagnostics. Prerequisites: Acceptance into the MLS Upward Mobility program or permission of the instructor. Notes: MLS professional program acceptance required.

**MLS 471 - Advanced Medical Diagnostics Credits: 2**
Advanced laboratory diagnostics including clinical correlations, total quality management, general operations, and patient analysis of complex disease states. Notes: MLS professional program acceptance required.

**MLS 471L - Advanced Medical Diagnostics Lab Credits: 2**
Advanced laboratory including clinical correlations, total quality management, general operations, and analysis of patient samples in complex disease states utilizing a simulated laboratory experience. Corequisites: MLS professional program acceptance required. Notes: MLS professional program acceptance required.

**MLS 472 - Advanced Clinical Experience I Credits: 8**
Supervised clinical experience in chemistry, urinalysis, body fluid analysis, microbiology, immunohematology, hematology/hemostasis, manuals and general laboratory practice.

**MLS 473 - Advanced Clinical Diagnostics I Credits: 3**
Advanced clinical applications and correlations that includes clinical chemistry, urinalysis, body fluid analysis, hematology, hemostasis and general laboratory operations.

**MLS 474 - Advanced Clinical Diagnostics II Credits: 3**
Advanced clinical applications and correlations that includes microbiology, immunohematology, molecular diagnostics and general laboratory operations.

**MLS 475 - Advanced Clinical Experience II Credits: 3**
Advanced clinical applications and correlations that includes microbiology, immunohematology, clinical chemistry, urinalysis, body fluid analysis, molecular diagnostics, hematology, hemostasis and general laboratory operations.

**MLS 483 - Senior Capstone Clinical Experience** Credits: 3

Students will complete a formal analysis of patient data at the clinical affiliate site and submit in a clinical case study format as a comprehensive experience. In addition, students will be required to successfully complete an interdisciplinary comprehensive program exam. Notes: Senior status in the MLS professional program and clinical placement required. Students enrolled in MLS program prior to Fall 2012 will take MLS 483 - Clinical Immunology Clinical Practice.

**MLS 487 - Elective Clinical Practice Credits: 1-4**
Supervised clinical experience in a variety of settings including hospital, clinic, and research laboratories. Notes: MLS professional program acceptance required or Phlebotomy Certificate.

**MLS 489 - Phlebotomy Clinical Experience Credits: 1**
Supervised clinical practice in phlebotomy. Notes: Senior status in the MLS professional program and clinical placement required or Phlebotomy Certificate.

**MLS 491 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

## MNET (Manufacturing Engineering Technology)

**MNET 150 - Introduction to Manufacturing Processes Credits: 3**
An introduction to the processes and materials used in advanced manufacturing. Production systems, materials and their properties, forming, separating, joining and assembly processes as well as production planning and quality are covered.

**MNET 220-220L - Parametric Modeling and Design and Lab Credits: 3**
Major course emphasis will be on creating 3-Dimensional solid models using current design software. Course will include the basic concepts of a feature-based parametric design, and the generation of mass properties, part drawings, assembly drawings and documentation. Prerequisites: GE 123. Corequisites: MNET 220L-220.

**MNET 231-231L - Manufacturing Processes I and Lab Credits: 3**
The topics in this course cover the fundamentals of traditional and nontraditional manufacturing processes including mass reducing, mass conserving, joining, material treatment, and surface treatment processes. Hands-on experiences in laboratories provide the class participants with basic skills in machining and welding processes. Corequisites: MNET 231L-231.

**MNET 240 - Parametric Modeling and Design II Credits: 3**
An advanced course in modeling and design. Complex assemblies, application of GD&T features, and design documentation are covered.

**MNET 243 - Introduction to Materials Science Credits: 3**
Basic concepts presented in relation to common engineering materials. Topics include physical and mechanical properties of materials. Metals, polymers, ceramics, and composite materials are covered with the corresponding industry application. Prerequisites: CHEM 106 or PHYS 101 or PHYS 111.

**MNET 243L - Introduction to Materials Science Lab Credits: 0**

**MNET 251 - Electricity and Electronics I Credits: 3**
Principles and applications in electrical systems including current, circuits, energy and power. Includes motors, generators, transformers, capacitors and other industrial applications. Prerequisites: 1 course from subject MATH 100 level or higher.

**MNET 251L - Electricity and Electronics I Credits: 0**
Laboratory to accompany MNET 251.

**MNET 252-252L - Electricity and Electronics II and Lab Credits: 3**
This course is the continuation of 251 and is designed to provide students with a background and understanding of the essential topics in semiconductor devices, semiconductor power supply and technology, and semiconductor amplifiers and their applications. Other topics include digital logic, integrated circuits, oscillators, AM/FM communications, TV signal transmissions, and computer structure and operations. Prerequisites: MNET 251. Corequisites: MNET 252L-252.

**MNET 265 - Quality Assurance Credits: 3**
Overview of quality assurance methods used to meet customer expectations. X bar and R charting, statistical process control, inspection, and measurement technologies are covered. Prerequisites: MATH 103, MATH 114, or equivalent.

**MNET 334-334L - CAM/CNC and Lab Credits: 3**
This course focuses on Computer Numerical Control (CNC) machines programming and operations. Automatic programming of CNC machines using Computer Aided Manufacturing (CAM) software is also the focus of this course. Corequisites: MNET 334L-334.

**MNET 367-367L - Production Strategy and Lab Credits: 3**
Analysis and design of facilities and material handling systems. Lean applications used to reduce waste and increase productivity. Prerequisites: MNET 150 or MNET 231 or ET 232 or instructor consent. Corequisites: MNET 367L-367.

**MNET 436-436L - Production Tooling Methods and Measurement and Lab Credits: 3**
An overview of machine tool design, application, manufacture and general measurement techniques. Subject includes jigs, fixtures, molds, tools and dies in various production settings. Also included are material selection, precision machining, related manufacturing processes, manufacturing inspection equipment and techniques, dimensional metrology and geometric conformance, and surface texture and integrity. Prerequisites: MNET 320 and MNET 334. Corequisites: MNET 436L-436.

**MNET 453-453L - Manufacturing Automation and Lab Credits: 3**
The course offers advanced topics in manufacturing automation including automation hardware/software, system design and integration, and management techniques for improving design and manufacturing operations. Hand-on lab activities provide the students the opportunity to develop and program automated systems. Prerequisites: MNET 451. Corequisites: MNET 453L-453.

**MNET 460-560 - Engineering Economic Analysis Credits: 3**
Economic analysis for practical application on industry projects; engineering economics; cost analysis, evaluation, and budget justification for capital expenditures. Prerequisites: MATH 114 or higher. Cross-Listed: OM 460-560.

**MNET 468-568 - Manufacturing Plant Management Credits: 3**
A case-oriented capstone course designed to integrate the technical, managerial, analytical, and communication skills which have been acquired. Prerequisites: MNET 367 or instructor approval.

**MNET 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**MNET 492 - Topics (COM) Credits: 1-3**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

## MRCH (Merchandising)

**MRCH 510 - Consumer Behavior in Merchandising Credits: 3**

**MRCH 520 - Professional Advancement in Merchandising Credits: 3**

**MRCH 530 - Product Design, Development, and Evaluation Credits: 3**

**MRCH 540 - Promotional Strategies in Merchandising Credits: 3**

**MRCH 550 - Retail Theory and Current Practice Credits: 3**

**MRCH 560 - Retail Analytics Credits: 3**

**MRCH 591 - Independent Study (COM) Credits: 1-3**

**MRCH 592 - Topics (COM) Credits: 1-3**

**MRCH 610 - Historical and Contemporary Issues in Trade Credits: 3**

**MRCH 620 - International Merchandise Management Credits: 3**

**MRCH 630 - Research Methods in Merchandising Credits: 3**

**MRCH 640 - Financial Merchandising Implications Credits: 3**

**MRCH 650 - Strategic Planning in Merchandising Credits: 3**

**MRCH 695 - Practicum (COM) Credits: 1-6**

**MRCH 700 - Foundations in Sustainability of Merchandising Credits: 3**

**MRCH 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**MRCH 798 - Thesis (COM) Credits: 1-6**

## MSL (Military Science Leadership)

**MSL 101 - Introduction to the Army and Critical Thinking (COM) Credits: 1**
Make your first peer group at college one committed to performing well and enjoying the experience. Increase self-confidence through team study and activities in basic map reading, physical fitness, rappelling, leadership reaction course, first aid, making presentations and basic marksmanship. Learn fundamental concepts of leadership in a profession in both classroom and outdoor laboratory environments.

**MSL 102 - Introduction to the Profession of Arms (COM) Credits: 1**
Learn and apply principles of effective leadership. Reinforce self-confidence through participation in physically and mentally challenging exercise with upper-division ROTC students. Learn basic tactics and how to apply critical thinking to leadership situations. Develop communication skills to improve individual performance and group interaction. Relate organizational ethical values to the effectiveness of a leader.

**MSL 150 - Army Physical Readiness Credits: 2**
This course is part of a professional curriculum for personnel desiring to become commissioned officers in the United States Army. It will cover the Army Physical Fitness and Readiness Program. Students will be instructed on the proper planning, preparation, and conduct of military fitness training.

**MSL 201 - Leadership and Decision Making (COM) Credits: 2**
Learn/apply ethics-based leadership skills that develop individual abilities and contribute to the building of effective teams of people. Develop skills in oral presentations, writing concisely, planning events, coordination of group efforts, advanced first aid, land navigation, and intermediate military tactics. Learn fundamentals of ROTC's leadership assessment program.

**MSL 202 - Army Doctrine and Team Development (COM) Credits: 2**
Introduction to individual and team aspects of military tactics in small unit operations. Includes: the study of doctrine; philosophy of ethics; and effective communication and counseling. Practical exercises with upper-division ROTC students. Learn techniques for training others as an aspect of continued leadership development.

**MSL 294 - ROTC Summer Leadership Internship (COM) Credits: 4**

**MSL 301-301L - Training Management and the Warfighting Functions and Lab (COM) Credits: 4**
Series of practical opportunities to lead small groups, receive personal assessments and encouragement, and lead again in situations of increasing complexity. Uses small unit tactics and opportunities to plan and conduct training for lower division students both to develop such skills and as vehicles for practicing leadership. The lab provides the student with practical experience to supplement and reinforce classroom instruction. Subjects include drill and ceremonies, physical training instruction techniques and leadership, which will complement the student's preparation for camp. Corequisites: MSL 301L-301.

**MSL 302-302L - Applied Leadership in Small Unit Operations and Lab (COM) Credits: 4**
Continues methodology of MSL 301. Analyze tasks; prepare written or oral guidance for team members to accomplish tasks. Delegate tasks and supervise. Plan for and adapt to the unexpected in organizations under stress. Examine and apply lessons from leadership case studies. Examine importance of ethical decision making in setting a positive climate that enhances team performance. Corequisites: MSL 302L-302.

**MSL 401-401L - The Army Officer and Lab (COM) Credits: 4**
Introduces formal management skills including problem analysis, planning techniques, and the delegation and control of activities, providing an understanding of the command and staff organization used in the modern army and creating a forum for discussing professional and ethical decisions faced by commissioned officers. Lab designed to accompany MSL 401. Corequisites: MSL 401L-401.

**MSL 402-402L - Company Grade Leadership and Lab (COM) Credits: 4**
Provides information for transition to active or reserve commissioned service, developing administrative controls essential in managing a military organization, introducing the management of financial and personal affairs, and allowing time for discussion and analysis of the ethical decision-making process. Lab designed to accompany MSL 402. Corequisites: MSL 402L-MSL 402.

**MSL 492 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**MSL 494 - Internship (COM) Credits: 4**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**MSL 495 - ROTC Nurse Summer Training Program (COM) Credits: 3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

## MUAP (Applied Music)

**MUAP 100 - Applied Music - Voice (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 101 - Applied Music - Voice (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 105 - Class Instruction - Guitar (COM) Credits: 1**
Beginning students will learn guitar in a class room setting studying basic techniques and styles.

**MUAP 110 - Applied Music - Keyboard (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 111 - Applied Music - Keyboard (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 115 - Class Instruction - Keyboard (COM) Credits: 1-2**
One to two semester hours credit for class instruction is given for two one hour class meetings. Adequate preparation through practice is expected of all students.

**MUAP 116 - Class Instruction - Keyboard (COM) Credits: 1-4**
One to two semester hours credit for class instruction is given for two one hour class meetings. Adequate preparation through practice is expected of all students.

**MUAP 120 - Applied Music - Woodwinds (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 121 - Applied Music - Woodwinds (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 130 - Applied Music - Brass (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 131 - Applied Music - Brass (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 140 - Applied Music - Percussion (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 141 - Applied Music - Percussion (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 150 - Applied Music - Strings (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 151 - Applied Music - Strings (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 200 - Applied Music - Voice (COM) Credits: 1-4**
One to two semester hours of credit for private lessons is given for on half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 201 - Applied Music - Voice (COM) Credits: 1-4**
Class voice instruction is open to anyone interested. Emphasis is placed on the development of the fundamental voice techniques.

**MUAP 210 - Applied Music - Keyboard (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 211 - Applied Music - Keyboard (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 220 - Applied Music - Woodwinds (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 221 - Applied Music - Woodwinds (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 230 - Applied Music - Brass (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 231 - Applied Music - Brass (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 240 - Applied Music - Percussion (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 241 - Applied Music - Percussion (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 250 - Applied Music - Strings (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 251 - Applied Music - Strings (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 300 - Applied Music - Voice (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 301 - Applied Music - Voice (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 310 - Applied Music - Keyboard (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 311 - Applied Music - Keyboard (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 320 - Applied Music - Woodwinds (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 321 - Applied Music - Woodwinds (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 330 - Applied Music - Brass (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 331 - Applied Music - Brass (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 340 - Applied Music - Percussion (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 341 - Applied Music - Percussion (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 350 - Applied Music - Strings (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 351 - Applied Music - Strings (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 400 - Applied Music - Voice (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 401 - Applied Music - Voice (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 410 - Applied Music - Keyboard (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 411 - Applied Music - Keyboard (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 420 - Applied Music - Woodwinds (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 421 - Applied Music - Woodwinds (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 430 - Applied Music - Brass (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 431 - Applied Music - Brass (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 440 - Applied Music - Percussion (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 441 - Applied Music - Percussion (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 450 - Applied Music - Strings (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 451 - Applied Music - Strings (COM) Credits: 1-4**
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.

**MUAP 483 - Public Recital (COM) Credits: 0**
Study preparation and performance of a program of music selected with the cooperation and approval of the student's major applied music teachers.

## MUEN (Music Ensembles)

**MUEN 100 - Concert Choir (COM) Credits: 0-2**
An ensemble performing accompanied and unaccompanied literature for mixed voices. Membership determined by instructor's permission and audition only.

**MUEN 102 - Bass Choir (COM) Credits: 0-1**
An ensemble performing accompanied and unaccompanied literature.

**MUEN 103 - Treble Choir (COM) Credits: 0-1**
An ensemble performing accompanied and unaccompanied literature.

**MUEN 107 - Opera Workshop (COM) Credits: 0-2**
This course includes study of various aspects of opera, such as character development, opera scenes study, and body movements, as well as basic production and staging techniques. Notes: May require placement into specific role.

**MUEN 110 - Orchestra (COM) Credits: 0-1**
A joint enterprise of the University and interested area musicians. The orchestra studies and performs standard orchestra literature and presents public concerts.

**MUEN 120 - Marching Band (COM) Credits: 0-2**
Active during the fall, the marching band performs at all home football games.

**MUEN 121 - Symphonic Band (COM) Credits: 0-1**
Members are selected by audition to perform the finest in original and transcribed literature in concert performances on and off-campus.

**MUEN 122 - Concert Band (COM) Credits: 0-1**
A joint enterprise open to university students and interested area musicians. Includes rehearsals and performance of band literature culminating in a public performance.

**MUEN 140 - String Ensemble (COM) Credits: 0-1**
Rehearsal and performance of literature for string orchestra. May be repeated for credit.

**MUEN 170 - Percussion Ensemble (COM) Credits: 0-1**
A select group of percussionists who perform music composed or arranged for this medium.

**MUEN 180 - Jazz Ensemble (COM) Credits: 0-1**
Gives students the opportunity to experience and perform music in the popular idiom and to relate it to practical use in secondary school music programs. Notes: Audition required.

**MUEN 300 - Concert Choir (COM) Credits: 0-2**
An ensemble performing accompanied and unaccompanied literature for mixed voices. Membership determined by instructor's permission and audition only.

**MUEN 302 - Bass Choir (COM) Credits: 0-1**

**MUEN 303 - Treble Choir (COM) Credits: 0-1**

**MUEN 307 - Opera Workshop (COM) Credits: 0-2**
This course includes study of various aspects of opera, such as character development, opera scenes study, and body movements, as well as basic production and staging techniques.

**MUEN 310 - Orchestra (COM) Credits: 0-1**
A joint enterprise of the University and interested area musicians. The orchestra studies and performs standard orchestra literature and presents public concerts.

**MUEN 320 - Marching Band (COM) Credits: 0-2**
Active during the fall, the marching band performs at all the home football games.

**MUEN 321 - Symphonic Band (COM) Credits: 0-1**
Members are selected by audition to perform the finest in original and transcribed literature in concert performances on and off-campus.

**MUEN 322 - Concert Band (COM) Credits: 0-1**
A joint enterprise open to University students and interested area musicians. Includes rehearsals and performance of band literature culminating in a public performance.

**MUEN 340 - String Ensemble (COM) Credits: 0-1**
Rehearsal and performance of literature for string orchestra. May be repeated for credit.

**MUEN 370 - Percussion Ensemble (COM) Credits: 0-1**
A select group of percussionists who perform music composed or arranged for this medium.

**MUEN 380 - Jazz Ensemble (COM) Credits: 0-1**
Gives students the opportunity to experience and perform music in the popular idiom and to relate it to practical use in secondary school music programs.

## MUS (Music)

**MUS 100 - Music Appreciation (COM) [SGR #4] Credits: 3**
A non-technical discussion designed to increase the enjoyment and appreciation of music. Fulfills the music requirement in the general education program. Notes: Course meets SGR #4.

**MUS 110 - Music Theory I (COM) Credits: 4**
An integrated study and application of tonality, melody, harmony, texture and form, from music notation through modulation. Includes sight singing, ear training and dictation. Introduction to composition and arranging, i.e. instrument ranges, transposition, tessitura and preliminary score analysis.

**MUS 110L - Aural Skills I (COM) Credits: 0**
Students will be taught sight singing and dictation skills that will prepare them to "see with their ears and hear with their eyes." Students will learn simple to advanced applications of writing down music from aural performance, and learn to quickly analyze melodies by singing them at sight.

**MUS 111 - Music Theory II (COM) Credits: 4**
An integrated study and application of tonality, melody, harmony, texture and form, from music notation through modulation. Includes sight singing, ear training and dictation. Introduction to composition and arranging, i.e. instrument ranges, transposition, tessitura and preliminary score analysis. Prerequisites: MUS 110.

**MUS 111L - Aural Skills II (COM) Credits: 0**
Students will be taught singing and diction skills that will prepare them to "see with their ears and hear with their eyes." Students will learn simple to advanced applications of writing down music from aural performance, and learn to quickly analyze melodies by singing them at sight.

**MUS 119 - First Year Seminar Credits: 2**
First-year seminar course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society. Cross-Listed: THEA 119.

**MUS 130 - Music Literature and History I [SGR #4] Credits: 2**
An introductory course of music cultures of the world. Emphasis on developing a fundamental knowledge of distinctive and unique music of different nations, especially non-Western music. Notes: Course meets SGR #4.

**MUS 131 - Music Literature and History II [SGR #4] Credits: 3**
Ancient through Baroque music literature – analysis of style, form and context, study of historical development and significance, comparison to similar works in other periods of music history. Emphasis on listening and score study. Notes: Course meets SGR #4.

**MUS 185 - Recital Attendance (COM) Credits: 0**
Designed to expose students to a large and varied body of music through attendance at recitals, forums, solo classes, concerts, and other performances. Required of all music majors each semester they are enrolled in applied music. Student teaching semesters and internships excepted. S/U grade.

**MUS 201 - History of Country Music [SGR #4] Credits: 3**
An in-depth exploration of Country Music, beginning with Scotch-Irish folk music of the late1600's, through the "New Traditionalists" of the 1990's. Notes: Course meets SGR #4.

**MUS 203 - Blues, Jazz, and Rock [SGR #4] Credits: 3**
This course examines the origins and developments of three uniquely American musics and their cultural impact upon, and within, American society. Notes: Course meets SGR #4.

**MUS 210 - Music Theory III (COM) Credits: 4**
A more advanced continuation of MUS 110, 111 with similar objectives and organization. A continuation of vocal/instrumental arranging and composition. Prerequisites: MUS 111.

**MUS 210L - Aural Skills III (COM) Credits: 0**
Students will be taught sight singing and diction skills that will prepare them to "see with their ears and hear with their eyes." Students will learn simple to advanced applications of writing down music from aural performance, and learn to quickly analyze melodies by singing them at sight.

**MUS 211 - Music Theory IV (COM) Credits: 4**
A more advanced continuation of MUS 110, 111 with similar objectives and organization. A continuation of vocal/instrumental arranging and composition. Prerequisites: MUS 210.

**MUS 211L - Aural Skills IV (COM) Credits: 0**
Students will be taught sight singing and diction skills that will prepare them to "see with their ears and hear with their eyes." Students will learn simple to advanced applications of writing down music from aural performance, and learn to quickly analyze melodies by singing them at sight.

**MUS 270 - Pedagogy I Credits: 1-2**
Pedagogical considerations in teaching music. Methods and concepts in specialized areas. Various sections cover brass, keyboard, percussion, strings, voice (diction, principles), woodwinds, and ensemble methodologies. Other specialized sections are offered as needed.

**MUS 271 - Pedagogy II Credits: 1-2**
Continuation of MUS 270. Pedagogical considerations in teaching music. Methods and concepts in specialized areas. Various sections cover brass, keyboard, percussion, strings, voice (diction, principles), woodwinds, and ensemble methodologies. Other specialized sections are offered as needed.

**MUS 280 - Explore Music in Western Europe Credits: 3**
An intensive three-week period of rehearsals, performances, lectures, attendance at plays and concerts, educational touring, and travel in a mix of West European countries.

**MUS 292 - Topics (COM) Credits: 1-5**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

**MUS 304 - Introduction to the Music Industry Credits: 3**
This course examines the many facets of the music industry; songwriting, music publishing, international copyright, licensing, unions and guilds, concert promotion, music and theatre, music product merchandising, arts management, and career options in music.

**MUS 305 - Introduction to Recording Industry Credits: 3**
This course explores the music business system; the scope of the recording industry; record markets; artists' recording contracts; record production; promotion and distribution and retailing; studios and pictures and television and career option and development, and digital media and digital copyright.

**MUS 313 - Form and Analysis (COM) Credits: 3**
Analysis of music in the student's major performance area. The course is normally completed under the direction of the student's major applied teacher. Prerequisites: MUS 210 or MUS 211.

**MUS 351 - Elementary School Music Methods (COM) Credits: 2-3**
This course provides methods and materials for guiding elementary students' musical growth.

**MUS 355 - Computer Based Technology and Learning for Music Educators Credits: 2**
This course prepares music students to integrate computers into the curriculum by exploring the evolving uses and expectations of technology and learning tools. Course objectives are based on ISTE standards and the requirements of the discipline.

**MUS 360-360L - Conducting (COM) Credits: 2**
Genera conducting focuses on the basic fundamentals of instrumental and choral conducting. The techniques of interpretation, score reading, rehearsal techniques, and the art of developing basic conducting techniques are addressed in the course. Lab accompanies MUS 360. Prerequisites: MUS 111. Corequisites: MUS 360L-360.

**MUS 361-361L - Music Education II: Conducting and Lab Credits: 2**
Section 1: Instrumental music methods and materials. Emphasis on rehearsal. Prerequisites: Techniques, conducting and study of appropriate materials. Section 2: Choral music methods and materials. Emphasis on rehearsal and conducting techniques through study of appropriate materials. Corequisites: MUS 361L-361.

**MUS 362-362L - Music Education III: Methods and Materials Credits: 2**
Section 1: Instrumental Music Methods and Materials. Emphasis on lesson, solo and ensemble materials and pedagogy for the school instrumental music teacher. Teaching techniques for individual, class, small and large instrumental music ensembles are offered. Students participate in supervised on-site teaching experiences at the elementary instrumental music and general music class levels. Section 2: Vocal Music Methods and Materials. Emphasis on choral teaching materials and teaching concepts and techniques for individual, class and ensembles for the school vocal teacher. Students participate in supervised on-site teaching experiences in choral music and general music classes. Corequisites: MUS 362L-362.

**MUS 365-365L - Music Education IV: Supervision and Administration of School Music and Lab Credits: 2**
A goal and objective approach to developing student skills in managing the total school music program, including choral and instrumental at the elementary and high school levels. Organizational and administrative skills are offered with hands-on opportunities for practical application. Units are also offered in music education history and philosophy. Corequisites: MUS 365L-365.

**MUS 370 - Pedagogy III Credits: 1-2**
Continuation of MUS 271. Pedagogical considerations in teaching music. Methods and concepts in specialized areas. Various sections cover brass, keyboard, percussion, strings, voice (diction, principles), woodwinds, and ensemble methodologies. Other specialized sections are offered as needed.

**MUS 371 - Pedagogy IV Credits: 1-2**
Continuation of MUS 370. Pedagogical considerations in teaching music. Methods and concepts in specialized areas. Various sections cover brass, keyboard, percussion, strings, voice (diction, principles), woodwinds, and ensemble methodologies. Other specialized sections are offered as needed.

**MUS 391 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**MUS 420 - Orchestration and Arranging (COM) Credits: 3**
A study of instruments alone and in combinations. Orchestration and arranging for instrumental and vocal ensembles. Preparation of parts and participation in the conducting and performing of works scored.

**MUS 433 - Music Literature and History III Credits: 3**
Classical, Romantic, and Modern music literature – analysis of style, form, and context; study of historical development and significance, comparison to similar works in other periods of music history. Emphasis on listening, score study, and research methods in the field of music.

**MUS 491-591 - Independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**MUS 492-592 - Topics (COM) Credits: 1-5**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

**MUS 494 - Internship (COM) Credits: 1-16**
Applied, monitored and supervised, field based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses. Prerequisites: Consent of department program coordinator.

## NE (Nuclear Engineering)

**NE 435-535 - Introduction to Nuclear Engineering Credits: 3**
This course considers the design of nuclear fission and fusion reactors and particle accelerators including discussion of basic nuclear properties, the fission process and reactor control, fusion reactors, environmental effects and nuclear waste management. Prerequisites: PHYS 331 or MATH 321 or consent.

**NE 437-537 - Foundations of Health Physics Credits: 3**
Health Physics studies the risk to health from radiation and the measures to assess and reduce that risk. This course is an introduction to several aspects of health physics including radiation quantities, limits and risk assessment, external and internal dosimetry, biological effects of radiation, interactions of radiation with matter, radioactive decay, radiation detection, and various applications of radiation. Prerequisites: MATH 123 or MATH 121-121L and PHYS 113-113L or PHYS 213-213L. Cross-Listed: PHYS 437-537.

**NE 494 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**NE 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

## NRM (Natural Resource Management)

**NRM 110 - People and the Environment Credits: 3**
Ecological approach to conservation; human's past and present impact on world environments; wise use of natural resources, including soil, water, air, forests, rangelands, energy, wildlife, and fisheries.

**NRM 119 - Orientation to Natural Resource Management Credits: 2**
Orientation course designed to introduce first-year and transfer students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management, goal setting, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society. Students will investigate career opportunities, engage in professional development activities, and have the opportunity to interact with natural resource professionals.

**NRM 200-200L - Animal Diversity and Lab Credits: 3**
Investigate all members of the animal kingdom comprising the living world focusing on diversity, systematics, reproductive patterns, principles of structure and function, ecology, and environmental relationships. Laboratory experience that accompanies BIOL 200. Prerequisites: BIOL 101 or BIOL 151. Corequisites: NRM 200L-200.

**NRM 221 - Introduction to Conservation Planning and Management Credits: 3**
This course will introduce key concepts and accepted practices in conservation planning and management. Focus will be directed to understanding the necessary tools needed to develop ecosystem based conservation plans.

**NRM 230 - Natural Resource Management Techniques Credits: 2**
Techniques involved with the collection of wildlife and fish populations, habitat, vegetation, and water quality information and data analysis.

**NRM 276 - Scientific Communications Credits: 1**
This course will emphasize best practices in communicating science in written reports and oral presentations to prepare students for upper level natural resource management courses.

**NRM 282-282L - Natural Resource Statistics and Lab Credits: 3**
Analysis and interpretation of natural resources data that relate to assessment of research and management activities. Prerequisites: MATH 114 or higher.

**NRM 300 - Laws and Policies in Natural Resource Management Credits: 3**
This course will introduce and discuss major environmental legislation which influences natural resource management agencies. Significant time will be spent studying various acts; agencies responsible for implementing components of these acts; funding and reporting requirements under these acts; management activities linked to these acts.

**NRM 311 - Principles of Ecology (COM) Credits: 3**
Basic principles of ecology including the sub disciplines of physiological ecology, population ecology, community ecology, evolutionary ecology, and ecosystems ecology from both a theoretical and applied aspect. Prerequisites: BIOL 151-151L or BIOL 153-153L. Cross-Listed: BIOL 311.

**NRM 321 - Park Interpretation Credits: 3**
This course will introduce principles and applications of environmental communication, education, and interpretation for managing natural resources.

**NRM 350 - Conservation and Management of Endangered and Nongame Wildlife Credits: 3**
This course focuses on the conservation and management of native and nongame wildlife, with special emphasis on species that are threatened. Topics to be covered include: wildlife laws, historical development of endangered/nongame programs, the Endangered Species Act, the USFWS endangered species program, research/management strategies, public education and involvement, role of zoos, and captive breeding programs. Prerequisites: NRM 311.

**NRM 405-405L/505-505L - Entomology and Lab (COM) Credits: 3**
An introduction to the general biology and classification of insects. Course emphasis placed on taxonomy, methods of identification, and ecological role of insects. Students will become familiar with basic insect anatomy and morphology, classification at the order level with exemplary families that include taxa of agricultural or environmental interest, and acquire an ability to sight recognize particular species that have agricultural, environmental, wildlife, and human and livestock health importance. Field trips and a collection are required. Prerequisites: "C" or better in BIOL 151-151L. Corequisites: NRM 405L-405/505L-505. Cross-Listed: PS 405-405L/505-505L.

**NRM 450-450L/550-550L - Freshwater Monitoring and Assessment and Lab Credits: 3**
This course will introduce policy's related to monitoring assessment of fresh waters, design of freshwater monitoring and assessment programs, standard field and laboratory techniques used by monitoring agencies, analysis and interpretation of monitoring data and uses of monitoring data to improve management of freshwater resources. Prerequisites: (NRM 282-282L or STAT 281) and NRM 311. Corequisites: NRM 450L-450/550L-550.

**NRM 464-564 - Ecosystem Ecology Credits: 3**
Study of energy and material flows through the living (plants, animals, microbes) and non-living (soils, atmosphere) components of ecological systems. Discussion of the major element cycles and patterns of energy flow through ecosystems, including how those fluxes and their controls differ for different ecosystems. Linkages between ecosystem structure and function will be emphasized. Prerequisites: (NRM 282-282L or STAT 281) and NRM 311.

**NRM 466-566 - Environmental Toxicology and Contaminants (COM) Credits: 3**
This course will prepare students in the area of Ecological Effects of Toxic Substances and other contaminants. Wildlife toxicology and impacts of agriculture on the Northern Plains will be emphasized. Topics covered will include pesticides, heavy metals, aquatic and terrestrial ecotoxicity and other topics related to Wildlife Toxicology. Prerequisites: BIOL 151-151L or BIOL 153-153L. Cross-Listed: BIOL 466-566.

**NRM 475-475L - Natural Resource Law Enforcement Investigations and Report Writing and Lab Credits: 2, 1**
This writing intensive course will focus on conducting and documenting a variety of natural resource related criminal investigations. Major topics will include setting up and conducting criminal investigation, interviewing witnesses and suspects, taking verbal and written statements, writing case reports and search warrant affidavits, collecting and preserving evidence, completing citations, and using a variety of investigative tools to solve cases. Prerequisites: Senior standing. Corequisites: NRM 475L-475.

**NRM 476 - Law Enforcement Techniques for Natural Resource Officers Credits: 3**
This is a hands-on learning experience and will involve fieldwork overseen by veteran natural resource law enforcement officers. Students will be able to experience simulated real-life law enforcement situations as they relate to hunting, fishing, boating, trapping, vehicle stops, night patrols, and miscellaneous natural resource laws and regulations. This course will stress proper communication (oral and written) and decisions when confronted with a variety of violations and violators. Prerequisites: WL 420.

**NRM 482-482L/582-582L - Natural Resource Management Biometry Credits: 3**
Study and application of advanced quantitative methods used to assess natural resources. Estimation of parameters, hypothesis testing, and use of classical fisheries and wildlife sciences, ecology, environmental science, and range science statistical techniques. Prerequisites: NRM 282-282L, STAT 281, or equivalent. Corequisites: WL 482L-482.

**NRM 491 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**NRM 492-592 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**NRM 494 - Internship (COM) Credits: 1-12**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**NRM 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**NRM 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**NRM 706-706L - Landscape Ecology and Lab Credits: 3**

**NRM 767 - Fire and Ecosystems Credits: 3**

**NRM 768 - Global Climate Change Credits: 3**

**NRM 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**NRM 790 - Seminar (COM) Credits: 1**

**NRM 791 - Independent Study (COM) Credits: 1-3**

**NRM 792 - Topics (COM) Credits: 1-6**

## NURS (Nursing)

**HSC 840 - Health Promotion Theory and Research Methods Credits: 3**

**NURS 119 - First Year Seminar (COM) Credits: 2**
First-year seminar course designed to introduce students to explore strategies for academic success including time management and study skills, guidance in academic planning and engagement, critical thinking, setting personal and academic goals, identifying campus and nursing resources, developing professional written and communication skills, stress management, and maintaining a healthy lifestyle. In addition, the class will help students acclimate to the university's culture.

**NURS 201 - Medical Terminology Credits: 1**
Study of definition and use of medical terms common to many health-related disciplines. Enrollment limited to freshmen and sophomores, or with permission of the instructor.

**NURS 234 - Patient-Centered Care Concepts I Credits: 2-3**
This course focuses on patient-centered care concepts at the novice nursing student level. Emphasis is on health and illness concepts with selected professional nursing concepts. Prerequisites: Admission to the nursing major. Corequisites: NURS 235, NURS 258-258L, NURS 272 and NURS 323.

**NURS 235 - Clinical Application I Credits: 2**
This clinical course provides opportunities at the novice nursing student level for the provision of nursing care to individuals/families with acute/chronic conditions across the lifespan in a variety of health care settings. Emphasis is on the role of nurse as member of profession and provider of care. Prerequisites: Admission to the nursing major. Corequisites: NURS 234, NURS 258-258L, NURS 272 and NURS 323.

**NURS 258-258L - Nursing Principles and Application I: Assessment and Interventions and Lab Credits: 3-4**
This course introduces health assessment skills and selected nursing interventions. Prerequisites: Admission to the nursing major. Corequisites: NURS 258L-258, NURS 234, NURS 235, NURS 272 and NURS 323.

**NURS 268 - RN to B.S.N. Transfer Credit Credits: 1-15**
Designed to facilitate transfer of students who have completed a two year nationally accredited AS program in nursing. The purpose is to provide transfer of previous work into an RN to B.S.N. option for students who have a commitment to the nursing profession.

**NURS 272 - Professional Nursing Concepts I Credits: 2**
This course focuses on the profession of nursing at the novice nursing student level. Emphasis is on professional nursing concepts, including communication, which are used as a foundation throughout the curriculum. Prerequisites: Admission to the nursing major. Corequisites: NURS 234, NURS 235, NURS 258-258L and NURS 323.

**NURS 300 - Transition to BSN Credits: 3**
This course introduces the registered nurse student to the nature of baccalaureate nursing education by providing an overview of the curriculum concepts. Through active participation, the student will discuss professional strengths within the various nursing roles. The student will be introduced to tools for professional development and lifelong learning. Prerequisites: Admission to the RN to BSN program.

**NURS 322 - Pharmacology Credits: 3**
Basics of pharmacology and therapeutics for nurses and others. Prerequisites: BIOL 325 and NURS 323. Nursing majors only.

**NURS 323 - Introduction to Pathophysiology Credits: 3**
This course covers topics which will provide a current understanding of the major disease processes across the lifespan. The course will lay the foundation for the study of pharmacological mechanisms of action of drugs and their rational clinical use. Of interest will be the linkage of relevant modern biology to the different disease states, attention to gender differences, especially regarding epidemiology and pathological changes, and the integration of health promotion and disease prevention, by emphasizing risk factors, nutritional requirements, and other relevant therapeutic practices. Prerequisites: 3rd year Pharmacy standing or Nursing major; BIOL 325.

**NURS 334 - Patient-Centered Care Concepts II Credits: 5**
This course focuses on patient-centered care concepts at the beginner nursing student level. Emphasis is on health and illness concepts with selected attribute and professional nursing concepts. Selected exemplars will be unique to pediatric and adult health. Prerequisites: NURS 234, NURS 235, NURS 258-258L, and NURS 272. Corequisites: NURS 322, NURS 335, and NURS 358-358L.

**NURS 335 - Clinical Application II Credits: 3**
This clinical course provides opportunities at the beginner nursing student level for the provision of nursing care to individuals/families with acute/chronic conditions in a variety of health care settings. Emphasis is on the role of nurse as member of profession and provider of care to children and adults. Prerequisites: NURS 234, NURS 235, NURS 258-258L, and NURS 272. Corequisites: NURS 322, NURS 334, and NURS 358-358L.

**NURS 344 - Patient-Centered Care Concepts III Credits: 5**
This course focuses on patient-centered care concepts at the advanced beginner nursing student level. Emphasis is on health and illness concepts with selected attribute and professional nursing concepts. Selected exemplars will be unique to gerontology and mental health. Prerequisites: NURS 322, NURS 334, NURS 335, and NURS 358-358L. Corequisites: NURS 345, NURS 360, and NURS 372.

**NURS 345 - Clinical Application III Credits: 3**
This clinical course provides opportunities at the advanced beginner nursing student level for the provision of nursing care to individuals/families with acute/chronic conditions in a variety of healthcare settings. Emphasis is on the roles of the nurse as a member of profession, provider of care and designer/manager/coordinator of care in gerontology and mental health. Prerequisites: NURS 322, NURS 334, NURS 335, and NURS 358-358L. Corequisites: NURS 344, NURS 360, and NURS 372.

**NURS 347 - Concepts Synthesis I Credits: 1**
This course uses discussion and reflection in the synthesis of selected curricular concepts in mental health and gerontology nursing at the advanced beginner nursing student level. The course serves to bridge student learning from both theory and clinical experiences with these patient populations. Prerequisites: Admission to the nursing major. Corequisites: NURS 344 and NURS 345.

**NURS 358-358L - Nursing Principles and Applications II: Interventions and Lab Credits: 3-4**
This course introduces selected nursing interventions and related assessment skills. Prerequisites: NURS 234, NURS 235, NURS 258-258L, and NURS 272. Corequisites: NURS 322, NURS 334, NURS 335, and NURS 358-358L.

**NURS 360 - Research and Evidence-Based Practice Credits: 3**
This course provides an introduction to research. Emphasis is on locating and evaluating resources to solve clinical problems and ensure quality nursing care using evidence based practice. Prerequisites: NURS 322, NURS 334, NURS 335, and NURS 358-358L. Corequisites: NURS 344, NURS 345, and NURS 372.

**NURS 372 - Professional Nursing Concepts II Credits: 2**
This course focuses on the profession of nursing at the advanced beginner nursing student level. Emphasis is on professional nursing concepts, including collaboration and health care economics. Prerequisites: NURS 322, NURS 334, NURS 335, and NURS 358-358L. Corequisites: NURS 344, NURS 345, and NURS 360.

**NURS 404 - Nurse as Health Coach Credits: 2**
This course introduces the learner to the concept of health coaching from a nursing perspective. Health coaching is a rapidly growing field in which nurses have the opportunity to be leaders, with an opportunity for specialty certification. Students will learn strategies and gain tools to approach client care with a coaching and growth mindset, encouraging client autonomy, choice, and empowerment in their own health and wellness. Students will have the opportunity to apply coaching skills through the use of peer-to-peer coaching.

**NURS 434 - Patient-Centered Care Concepts IV Credits: 5**
This course focuses on patient-centered care concepts at the advanced beginner nursing student level. Emphasis is on health and illness concepts with selected professional nursing concepts. Selected exemplars will be unique to complex patients and childbearing families.

**NURS 435 - Clinical Application IV Credits: 4**
This clinical course provides opportunities at the advanced beginner nursing student level for the provision of nursing care to individuals/families with acute/chronic conditions in a variety of healthcare settings. Emphasis is on the roles of the nurse as member of the profession, provider of care and designer/manager/coordinator of care for complex patients and childbearing families.

**NURS 437 - Concepts Synthesis II Credits: 1**
This course further develops, through discussion and reflection, the ability of the advanced beginner nursing student to synthesize selected curricular concepts in the care of complex patients and childbearing families. The course serves to bridge student learning from both theory and clinical experiences with these patient populations. Prerequisites: Admission to the nursing major. Corequisites: NURS 434 and NURS 435.

**NURS 444-444L - Population-Centered Care and Lab Credits: 3**
This course combines classroom and clinical settings to provide an introduction to public health and population-based nursing care. Emphasis is on public health principles and the development and implementation of community interventions to maintain/promote health and prevent disease/injury.

**NURS 460 - Preparation for RN Licensure Credits: 1**
This course is designed to assist nursing students with preparation for the National Council Licensure Examination for Registered Nurses (NCLEXRN) Computer Adaptive Testing (CAT). Students will answer test questions and discuss rationale for the answers using a cooperative learning group approach to prepare for the NCLEX-RN licensure examination.

**NURS 461 - Vulnerable Populations: Nursing Perspectives Credits: 3**
This course examines health determinants and health disparities from the nursing perspective. The registered nurse student will evaluate factors influencing vulnerable populations and understand resulting health care issues. The student will explore disparities within social, cultural, political, economic, and environmental contexts using a collaborative approach. Prerequisites: Admission to the RN to BSN program.

**NURS 462 - Population Health: Nursing Perspectives Credits: 3**
This course introduces the registered nurse student to the concept of the client as a member of the population. The student examines population health issues and the role of the nurse in providing care, with an emphasis is on community assessment, program planning, and evaluation. The student will complete experiential learning in rural and/or urban community settings. Prerequisites: NURS 300 and admission to the RN to BSN program.

**NURS 463 - Health Policy and Economics Credits: 3**
This course prepares the registered nurse student to examine the ever-changing healthcare environment as it relates to health policy and economics. Through analysis of historical reform and change driven by health policy, the student will gain an understanding of the nation's current health status and its impact to the client. The student will explore significant factors that drive transformation in healthcare delivery and how nurses can make critical contributions. Prerequisites: Admission to the RN to BSN program.

**NURS 464 - Genetics and Genomics in Nursing Credits: 3**
This course introduces human genetics and application of genetic and genomic concepts to nursing practice, health care, and society. The registered nurse student will explore the impact of genetic and genomic science on nursing care of clients and families across the lifespan. Ethical, legal, cultural, social and policy issues related to genetics and genomics will be discussed. Prerequisites: Admission to the RN to BSN program.

**NURS 465 - Evidence-Based Nursing Practice Credits: 3**
This course introduces research, evidence-based practice, and improvement science. The registered nurse student will identify a clinical problem, develop a clinical practice question, and retrieve and evaluate evidence. The student will complete experiential learning to develop improvements in practice. Prerequisites: Admission to RN to BSN program.

**NURS 466 - Healthcare Systems and Informatics Credits: 3**
This course examines the role of nursing informatics in healthcare systems for delivery of safe, high-quality client care. Through analysis of healthcare systems and informatics, the registered nurse student will understand the impact of access to care and opportunities for collaboration on client health status. The student will investigate quality indicators, utilization of informatics, and organizational ethics to improve client outcomes. Prerequisites: Admission to RN to BSN program.

**NURS 467 - Global Health: Nursing Perspectives Credits: 3**
This course introduces the student registered nurse to global health concepts, critical health issues, and a network of organizations working to advance health care internationally. Emphasis will be on disparities/determinants of health, global forced displacement, the burden of disease, and the importance of a multidisciplinary approach to health care delivery. Students will explore facets of the global health care delivery system and policies affecting global health, as well as how nurses can engage as global leaders.

**NURS 468 - Palliative Care Nursing Credits: 3**
This course examines the principles of primary palliative care nursing and how they can be integrated across all settings to improve symptom management and quality of life for patients with chronic illness. Students will explore pain management, comfort care, communication strategies, and ethical dilemmas at end-of-life while focusing on the physical, psychological, social, and spiritual needs of patients and their families.

**NURS 469 - Nursing Leadership Capstone Credits: 3**
This capstone course analyzes management, leadership, and change theories within professional nursing practice. Through appraisal of leadership, the registered nurse student will examine resource management, organizational culture, conflict management/resolution, and group process skills. The student will synthesize curriculum learning through development of a personal leadership model. Prerequisites: Admission to RN to BSN program.

**NURS 472 - Professional Nursing Concepts III Credits: 3**
This capstone seminar course focuses on the profession of nursing at the competent nursing student level. Emphasis is on synthesis of professional nursing concepts, evaluation of personal practice, and analysis of practice issues.

**NURS 491 - Independent Study (COM) Credits: 1-7**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**NURS 492 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**NURS 495 - Practicum (COM) Credits: 1-6**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**NURS 497 - Cooperative Education (COM) Credits: 1-4**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**NURS 615 - Foundations Advanced Nursing Credits: 3**

**NURS 620 - Role Development of the Nurse Educator Credits: 2**

**NURS 623 - Pathophysiology Across the Lifespan - Application to Advanced Practice Nursing Credits: 2-4**

**NURS 626 - Research in Nursing and Health Care Credits: 3**

**NURS 630 - Advanced Assessment Across the Lifespan for the CNL/Nurse Educator Credits: 3**

**NURS 631-631L - Advanced Assessment: Lifespan and Lab Credits: 3, 1**

**NURS 645 - CNL I: Improvement Science: A Microsystem Approach Credits: 5**

**NURS 646 - CNL II: Clinical Immersion and Capstone Project Credits: 6**

**NURS 670 - Health Policy, Legislation, Economics and Ethics Credits: 3**

**NURS 675 - Cultural Competence in Health Care Credits: 3**

**NURS 691 - Independent Study (COM) Credits: 1-3**

**NURS 692 - Topics (COM) Credits: 1-3**

**NURS 710 - Curriculum Development and Program Evaluation in Nursing Credits: 3**

**NURS 720 - Teaching and Learning Methodologies in Nursing Credits: 3**

**NURS 721 - Assessment and Evaluation in Nursing Education Credits: 3**

**NURS 732 - Psychopharmacology and Neurobiology Across the Lifespan Credits: 2**

**NURS 733 - Psychopathological Disorders Across the Lifespan Credits: 3**

**NURS 734 - Theories and Interventions for Individuals and Groups Credits: 2**

**NURS 735 - Advanced Psychiatric Assessment and Differential Diagnosis Across the Lifespan Credits: 2**

**NURS 736 - Psychiatric/Mental Health Advanced Practice Across the Lifespan I Credits: 4**

**NURS 737 - Psychiatric/Mental Health Advanced Practice Across the Lifespan II Credits: 5**

**NURS 750 - Transformational Leadership Credits: 3**

**NURS 760 - Advanced Concepts in Health Promotion and Disease Prevention Credits: 3**

**NURS 765 - FNP Integration: Practicum I Credits: 7**

**NURS 768 - FNP Integration: Practicum II Credits: 4**

**NURS 771 - FNP Integration: Practicum III Credits: 7**

**NURS 774-774L - Nurse Administrator: Practicum and Lab Credits: 6**

**NURS 776 - FNP Integration: Practicum IV Credits: 8**

**NURS 778 - Nurse Educator Didactic/Practicum Credits: 1-5**

**NURS 780 - Clinical Genetics and Genomics: Advanced Concepts Credits: 1**

**NURS 781 - Clinical Epidemiology: Advanced Concepts Credits: 1**

**NURS 788 - Master's Research Problems/Projects (COM) Credits: 1-2**

**NURS 798 - Thesis (COM) Credits: 1-7**

**NURS 810 - Doctoral Seminar Credits: 1**

**NURS 815 - Philosophical Basis for Nursing Inquiry Credits: 3**

**NURS 820 - Theory Development in Nursing Credits: 3**

**NURS 825 - Qualitative Research Methods in Nursing Credits: 3**

**NURS 830 - Quantitative Methods in Nursing Research Credits: 3**

**NURS 832 - Mixed Methods Research Credits: 3**

**NURS 835 - Ethical Issues Influencing Practice and Research in Health Credits: 2**

**NURS 840 - Health Promotion Theory and Research Methods Credits: 3**

**NURS 845 - Measurement and Instrument Evaluation in Health Sciences Research Credits: 3**

**NURS 850 - Philosophical and Theoretical Foundations for Evidence-Based Care Credits: 3**

**NURS 860 - Health Operations and Financial Management for Nurse Leaders Credits: 3**

**NURS 875 - DNP Intensive Credits: 1-9**

**NURS 880 - DNP Project (COM) Credits: 1-8**

**NURS 895 - Practicum (COM) Credits: 1-3**

**NURS 898D - Dissertation - PhD (COM) Credits: 1-24**

## NUTR (Nutrition & Dietetics)

**NUTR 111 - Food, People and the Environment Credits: 3**
The survey of global food cultures, their stewardship of natural resources, and their impacts on the environment. It will also explore the ethical issues of choices in post-harvest food processing and their interactions with the environment. The course will also cover topics related with the Land-Grant philosophy.

**NUTR 141-141L - Foods Principles and Lab Credits: 4**
Scientific investigation of basic foods used to maintain optimum nutrition. Corequisites: NUTR 141L-141.

**NUTR 221 - Survey of Nutrition Credits: 3**
Fundamentals of nourishing the body properly and the role that food plays in meeting the nutritional requirements of individuals. Designed for the student who lacks a science background but wishes to study human nutrition in some detail.

**NUTR 225 - Nutrition for Exercise and Sport Credits: 3**
This course is designed to provide an overview of basic nutritional needs for athletes and/or physically active individuals. Issues discussed include ergogenic aids, carbohydrate loading/manipulation, protein supplements, and hydration. Practical application will include dietary analysis and composition for people in various sports.

**NUTR 298 - Undergraduate Research/Scholarship (COM) Credits: 1-3**

**NUTR 315 - Human Nutrition (COM) Credits: 3**
The science of food, the nutrients and other substances therein, their action, interaction, and balance in relation to health and disease and the processes by which the organism ingests, digests, absorbs, transports, utilizes and excretes food substances. Prerequisites: CHEM 106 or CHEM 107 or CHEM 112.

**NUTR 322 - Nutrition Assessment Credits: 3**
Study of nutritional screening and assessment, including nutrition-focused physical exam. Review of principles of dietetics and the role of the professional dietitian. Prerequisites: NUTR 315.

**NUTR 323 - Nutrition Across the Life Cycle Credits: 3**
In depth study of the nutritional needs throughout the lifecycle from embryo to old age. Physiological and biochemical principles and current research are used to build a foundation for exploration of nutrition across the stages of reproduction, growth and development, and maturation and aging. Prerequisites: NUTR 315.

**NUTR 341-341L - Food Science for Nutrition and Dietetics and Lab Credits: 4**
Study of physical/chemical factors affecting food quality resulting from preparation and processing methods. Students will become familiar with techniques in sensory evaluation and basic principles of food analysis. Prerequisites: NUTR 141, CHEM 112, and CHEM 114. Corequisites: NUTR 341L-341.

**NUTR 422-522 - Advanced Human Nutrition and Metabolism Credits: 4**
Principles of metabolism and application to human nutrition. Prerequisites: BIOL 325 and NUTR 315.

**NUTR 423-423L/523-523L - Medical Nutrition Therapy I and Lab Credits: 3**
This course introduces the role of nutritional intervention in pathological conditions. Students will demonstrate the ability to screen for nutritional risk, collect data for nutritional assessment and calculate and/or define diets for common conditions. Prerequisites: NUTR 322 and NUTR 422. Corequisites: NUTR 423L-423/523L-523.

**NUTR 424-424L/524-524L - Community Nutrition and Lab Credits: 3**
Application of learning principles, teaching methods and knowledge of nutrition in community nutrition education programs and out-patient nutrition counseling. Prerequisites: NUTR 315 and NUTR 323. Corequisites: NUTR 424L-424/524L-524.

**NUTR 425-425L/525-525L - Medical Nutrition Therapy II and Lab Credits: 3**
Continuation of NUTR 423-523. Prerequisites: NUTR 423-423L/523-523L. Corequisites: NUTR 425L-425/525L-525.

**NUTR 426-426L/526-526L - Production of Wine Beer Spirits and Laboratory Credits: 3**
Students will learn the procedures required for the biological and agricultural production of wine, beer and spirits coupled with the science of fermentation and the methodology required for the tasting of wine and beer for flavor/odor identification per industry guidelines. Lecture topics of student inquiry include: (1) the brewing of beer and the functional contributions of its ingredients, (2) wine production from vine to bottle, (3) the distillation of spirits and (4) the marketing, pairing and service of wine, beer and spirits. This course is designed for students/graduates who will potentially go into the business of not only growth and production, but also marketing and serving wine, beer and spirits. Laboratory investigation includes hands-on opportunities involving the production of beer and wine. Students will experiment with production parameters and investigate quality defects. Wine and beer quality will be assessed through laboratory testing coupled with taste testing without consumption (taste and spit) both per industry specifications. Students will develop skills in identifying specific flavors/odors such as oak, butter or lemon in wine and similar tasting techniques in beer. Prerequisites: Participants must be 21 years of age or older to enroll. Corequisites: NUTR 426L-426/526L-526. Cross-Listed: HO/PS 426-426L/526-526L.

**NUTR 460-560 - Nutrigenomics and Molecular Nutrition Credits: 3**
Non-communicable diseases (NCD) or chronic diseases though highly preventable are the leading killer in both developing and developed economies around the world. This indicates inadequacy of current clinical practices and underscores the importance of lifestyle and dietary approaches in tackling this growing epidemic. Traditional nutrition research and education has focused on determining optimal dietary-needs and dietary-behavior for human development and sustenance. This course will introduce the principles of Nutrigenomics, a newer science that seeks to provide a molecular understanding for how diet and common dietary constituents affect human health by altering gene expression. Prerequisites: BIOL 325, NUTR 315, and NUTR 422 or CHEM 464.

**NUTR 480-580 - Travel Studies Credits: 1-5**
This travel-study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators at other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.

**NUTR 487 - Transition to Professional World Credits: 1**
Transition to the professional world will identify expectations for the world of work. Emphasis on effective written and verbal communication skills as related to work experiences, issue analysis, and goal setting for the future. Students will prepare for professional experiences such as internships, graduate school and professional positions upon graduation. Prerequisites: Dietetics major and junior or senior standing.

**NUTR 490 - Seminar (COM) Credits: 1-2**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division graduate levels. Enrollment is generally limited to few than 20 students.

**NUTR 491-591 - Independent Study (COM) Credits: 1-6**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**NUTR 492 - Topics (COM) Credits: 1-3**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

**NUTR 494 - Internship (COM) Credits: 1-7**
Applied, monitored and supervised, field based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**NUTR 495 - Practicum (COM) Credits: 2**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**NUTR 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**NUTR 660 - Maternal and Child Nutrition Credits: 3**

**NUTR 662 - Sociocultural Aspects of Nutrition Credits: 3**

**NUTR 702 - Macronutrients in Human Nutrition Credits: 3**

**NUTR 704 - Phytochemicals Credits: 3**

**NUTR 705 - Functional Foods for Chronic Disease Prevention Credits: 3**

**NUTR 706 - Nutrition and Immunology Credits: 3**

**NUTR 708 - Applied Research and Evidence Based Analysis Credits: 3**

**NUTR 709 - Advanced Lipid Metabolism Credits: 3**

**NUTR 710 - Dietary and Herbal Supplements Credits: 3**

**NUTR 711 - Clinical Aspects of Nutrition Support Credits: 3**

**NUTR 715 - Public Health Nutrition Credits: 3**

**NUTR 723 - Nutrition Focus on Life Stages Credits: 3**

**NUTR 724 - Nutrition Education in the Community Credits: 3**

**NUTR 725 - Nutrition and Human Performance Credits: 3**

**NUTR 726 - Nutrition and Wellness Credits: 3**

**NUTR 727 - Obesity Across the Lifespan Credits: 3**

**NUTR 728 - Pediatric Clinical Nutrition Credits: 3**

**NUTR 729 - International Nutrition/World Hunter Credits: 3**

**NUTR 730 - Nutritional Aspects of Oncology Credits: 3**

**NUTR 734 - Research Methods in Dietetics Credits: 3**

**NUTR 735 - Current Trends in Dietetics Practice Credits: 3**

**NUTR 741 - Grant Writing in Dietetics Credits: 3**

**NUTR 743 - Foundations in Leadership for Dietetics Credits: 3**

**NUTR 750 - Issues in Obesity Credits: 3**

**NUTR 751 - Nutrition and Physical Activity Assessment and Evaluation Credits: 3**

**NUTR 760 - Vitamins and Minerals in Human Nutrition Credits: 3**

**NUTR 761 - Nutrition of Aging Credits: 3**

**NUTR 765 - Dietetic Accounting Concepts Credits: 3**

**NUTR 769 - Healthcare Administration for Dietetics Credits: 3**

**NUTR 770 - Food Writing for Professionals Credits: 3**

**NUTR 775 - Nutrigenomics and Health Credits: 3**

**NUTR 782 - Epidemiology Credits: 3**

**NUTR 794 - Internship (COM) Credits: 1-3**

**NUTR 795 - Practicum (COM) Credits: 1-3**

**NUTR 798 - Thesis (COM) Credits: 1-7**

## OM (Operations Management)

**OM 240 - Decision Making Processes in Management Credits: 3**
A comprehensive approach to decision making for future managers utilizing a systems thinking approach. This course covers problem identification, data collection, analysis and interpretation, development and analysis of alternatives, conflict resolution, evaluation, and ethics. Prerequisites: MATH 114.

**OM 415-515 - Logistics and Transportation Management Credits: 3**
This course addresses the movement of goods in the global supply chain. Processes used in planning and coordinating the delivery of goods. Transportation systems analysis, cost reduction, import/export issues, distribution and sourcing. Prerequisites: STAT 281.

**OM 425 - Production and Operations Management Credits: 3**
This course studies the basic tools of operations management with emphasis on decision-making models in production and planning. Such topics as decision theory, production planning and control, inventory control, materials requirement planning, project management, and quality control are covered. Prerequisites: STAT 281 and MNET 367-367L.

**OM 435-535 - Warehouse Management Credits: 3**
This course covers inventory control and materials handling in the warehouse setting. Receiving, storing, picking and shipping goods are addressed. Equipment, software systems and emerging technologies used to track goods are analyzed. Prerequisites: MNET 367-367L.

**OM 460-560 - Engineering Economic Analysis Credits: 3**
Economic analysis for practical application on industry projects; engineering economics; cost analysis, evaluation, and budget justification for capital expenditures. Prerequisites: MATH 114 or higher. Cross-Listed: MNET 460-560.

**OM 462-562 - Quality Management Credits: 3**
Course focus is on managerial philosophies and techniques of quality planning and control. This includes quality improvement tools, reliability, cost of quality, and human factors that affect quality initiatives. Prerequisites: STAT 281 or STAT 381.

**OM 463-563 - Supply Chain Management Credits: 3**
Study and analysis of activities in the flow of materials from the supplier to the consumer. These include physical supply, operations planning and control, storage and warehousing, and physical distribution. Prerequisites: C or better in OM 425; STAT 281 or STAT 381.

**OM 465 - Quality Control Applications Credits: 3**
Quality control theory applied to problems in production systems, including probability concepts, control chart concepts, sampling inspection plans; mean time between failure; and, application of statistics for quality control in discrete-item manufacturing systems. Prerequisites: OM 462; STAT 281 or STAT 381.

**OM 470 - Project Management Credits: 2**
Basic theory, application, and methods of project management applied to technical projects. A team-oriented, collaborative approach to building and testing products, developing and managing processes, and/or conducting applied undergraduate research. Prerequisites: ENGL 201 or ENGL 277, senior standing, or instructor approval.

**OM 471 - Capstone Experience Credits: 2**
Technical projects developed in Project Management are completed. Student teams present results in a public venue. Prerequisites: OM 470 or GE 469. Cross-Listed: ET 471.

**OM 490 - Seminar (COM) Credits: 1**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students.

**OM 491-591 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**OM 494 - Internship (COM) Credits: 1-3**
Applied, monitored and supervised, field based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**OM 569 - Project Management Credits: 2-3**

**OM 603 - Designing the Work Place for Production Credits: 3**

**OM 620 - Analysis in Operations Management Credits: 3**

**OM 650 - Manufacturing Systems Management Credits: 3**

**OM 660 - Operations Management Credits: 3**

**OM 665 - Quality Control Applications Credits: 3**

**OM 670 - Research Methods in Management Credits: 3**

**OM 690 - Seminar (COM) Credits: 1**

**OM 760 - Quality Control Credits: 3**

**OM 788 - Master's Research Problems/Projects (COM) Credits: 1-2**

**OM 791 - Independent Study (COM) Credits: 1-3**

**OM 792 - Topics (COM) Credits: 1-3**

**OM 798 - Thesis (COM) Credits: 1-7**

## PE (Physical Education)

**PE 100 - Activity Courses (COM) Credits: 1**
Activities stressing individual physical fitness and lifetime activities according to student needs and interest.

**PE 170 - Fundamental Movement Credits: 1**
Defining, analyzing, and evaluating fundamental locomotor, non-locomotor (axial) and manipulative skills progressions in skill development.

**PE 180 - Foundations of HPER/A (COM) Credits: 2**
A survey of the historical background, sociological implications, and philosophical basis and professional opportunities of HPER/A professions. This course includes a review of the modern principles and related concepts which are applicable to physical activity.

**PE 185-185L - Introduction to Teaching Physical Literacy and Lab Credits: 3**
Review of critical foundational and historical concepts relevant to current physical activity. Teacher candidates will describe, analyze, apply, and evaluate fundamental skills and knowledge leading to physical literacy. Corequisites: PE 185L-185.

**PE 220-220L - Skills and Fitness Based Competencies: Fitness and Lab Credits: 3**
Experiences to develop skills necessary for teacher candidates to deliver quality K-12 physical activity content to meet the needs of the ever-changing K-12 student learners. A practical technologically appropriate application of fitness skills content that will consist of planning for testing, adapting, assessing, and measuring of the teacher candidate's performance and utilization of fitness skills. Prerequisites: Instructor consent. Corequisites: PE 220L-220, PE 221, and PE 222.

**PE 221-221L - Skills & Fitness Based Competencies: Lifetime Activities and Lab Credits: 3**
Experiences to develop skills necessary for teacher candidates to deliver quality K-12 physical activity content to meet the needs of the ever-changing K-12 student learners. A practical technologically appropriate application of lifetime skills content will consist of testing, adapting, assessing, and measuring of the teacher candidate's performance and utilization of lifetime skills. Prerequisites: Instructor consent. Corequisites: PE 221L-221, PE 220, and PE 222.

**PE 222-222L - Skills & Fitness Based Competencies: Tactical Games and Lab Credits: 3**
Experiences to develop skills necessary for teacher candidates to deliver quality K-12 physical activity content to meet the needs of the ever changing K-12 student learners. A practical technologically appropriate application of tactical skills content will consist of testing, adapting, assessing, and measuring of the teacher candidate's performance and utilization of tactical skills as applied to game settings. Prerequisites: Instructor consent. Corequisites: PE 222L-222, PE 220, and PE 221.

**PE 275-275L - Science of Movement and Lab Credits: 3**
Introduction to principles related to teaching, learning, and performance of motor skills. Emphasizes the application of knowledge to teaching and learning strategies for motor learning and motor skill acquisition. Additional knowledge of motor behavior/psychological and motor development principles will be applied, using knowledge of stages of learning as they apply to providing performance feedback to these students in an activity setting.

**PE 300 - Applied Sport and Exercise Science (COM) Credits: 3**
This course is an introduction to exercise, sport physiology and biomechanics, designed to give physical education teacher candidates an opportunity to explore the physiological and biomechanical foundations of exercise and sport. Prerequisites: BIOL 221-221L.

**PE 341 - Curriculum Development and Evaluation (COM) Credits: 2**
Philosophy, theory, and application of current curriculum foundations in K-12 physical education, including curriculum theory, organization, design, and assessment. Prerequisites: PE 180 or PE 185-185L.

**PE 342-342L - Experiential Education in Physical Education and Lab Credits: 3**
Lecture, lab, and field experiences focused on learners and learning in the physical education classroom. Minimum of 15 hours of documented and structured field experience in an appropriate movement setting. Prerequisites: PE 220-220L, PE 221-221L, and PE 222-222L. Instructor consent. Corequisites: PE 342L-342.

**PE 352 - Adapted Physical Education (COM) Credits: 2**
Students are exposed to those impairments addressed in IDEA as they relate to physical education. Assessments, IEP development, and other elements necessary to successful inclusion are addressed. In addition, physical activities for special populations outside the school setting are also addressed.

**PE 360-360L - K-8 Physical Education Methods and Lab (COM) Credits: 2**
Needs, characteristics, capacities of elementary-aged children (grades K-8); curriculum planning; methods and materials essential to program progression for developmentally appropriate activity in basic skills, games, rhythms, dance, and fitness activities; integrating movement activity on a school-wide basis as part of program efforts to enhance overall student wellness and academic readiness. Lab that accompanies PE 360. Corequisites: PE 360L-360.

**PE 395 - Practicum (COM) Credits: 3**

**PE 440 - Organization and Administration of HPER/Athletics (COM) Credits: 2**
Administrative policies and procedures of physical education and athletics, including intramural and interscholastic activity and athletics. Consideration is given to programming, leadership, budget, facilities, public relations, and related matters.

**PE 451-451L - Tests and Measurements and Lab (COM) Credits: 2**
This course will include use of various tests and instruments used for measuring progress in physical education and how statistical concepts apply to testing in physical education. Development of the knowledge and ability to utilize both formative and summative assessments for psychomotor, cognitive, and affective domains. Additionally, techniques to evaluate one's own teaching performance and make adjustments to enhance subsequent teaching and program effectiveness will be discussed. Lab accompanies PE 451. Prerequisites: MATH 114, MATH 115, MATH 120, MATH 121, MATH 123, MATH 125 or MATH 281. Corequisites: PE 451L-451.

**PE 460-460L - Theories, Strategies, and Application of Management and Instruction and Lab Credits: 4**
Study of models of instruction and co-teaching strategies. Examination of management strategies, programs, and their use in instructional settings will be utilized in assessment and evaluation. Corequisites: PE 461.

**PE 461 - Professionalism, Ethics, and Law Credits: 2**
Discussion and development of professional attributes and dispositions essential to becoming effective professionals, to include relevant topics: ethics, school law, management, professional organizations, and environments. Corequisites: PE 460-460L.

**PE 478 - Student Teaching I Credits: 2**
Teacher candidates preparing for teaching in an approved school will observe, participate, and teach under the supervision of the regular classroom teacher in an approved school. An additional fee applies to this course. Prerequisites: Instructor consent. Corequisites: PE 460-460L, PE 461, and SEED 450.

**PE 479 - Student Teaching II Credits: 6-10**
Teacher candidates preparing for teaching in the secondary school will observe, participate, and teach under the supervision of the regular classroom teacher in an approved secondary school (either middle or high school level). An additional fee applies to this course. Corequisites: PE 488.

**PE 483 - Fundamentals and Theories of Coaching (COM) Credits: 2**
Designed to develop well-qualified coaches that can plan dynamic practice sessions, teach sound fundamentals, promote positive communication and motivational techniques. Coaches will manage performance analysis, program organization, contest administration, equipment and facility management and contemporary issues related to coaching.

**PE 484 - Fundamentals and Theories of Coaching: Field Experience (COM) Credits: 1**
The students will prepare for coaching in an approved setting they will observe, participate and coach under the supervision of a certified coach in an approved setting. An additional "mandatory fee" applies to this course. Prerequisites: PE 483 or concurrent. Notes: PE 484 will be allowed to be repeated to take the field experience for multiple sports. The first time PE 484 must be taken with PE 483. Subsequent repeats of PE 484 may be completed after PE 483 is completed.

**PE 485-585 - Travel Studies Credits: 1-5**
This travel course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of SDSU or other institutions. Students will participate in hands-on activities and design educational activities for presentations at selected locations. Includes pre-travel orientation, post-travel exit interview, and a written report.

**PE 488 - Student Teaching III Credits: 6-10**
Teacher candidates preparing for teaching in the elementary school will observe, participate, and teach under the supervision of the regular classroom teacher in an approved elementary school. An additional fee applies to this course. Corequisites: PE 479.

**PE 490 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students. Prerequisites: Consent.

**PE 491 - Independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**PE 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**PE 742 - Psychological Aspects of Sport and Exercise Credits: 3**

**PE 770 - Sport and Recreation Administration Credits: 3**

**PE 771 - Seminar in Sport and Recreation Administration Credits: 3**

**PE 772 - Financial Aspects of Sport and Recreation Administration Credits: 3**

## PHA (Pharmacy)

**PHA 101 - Introduction to Pharmacy Credits: 1**
Introduction to pharmacy and the role of the pharmacist within the contemporary health care team. Also includes introductory material relating to U.S. Health Care and medical terminology.

**PHA 119 - Introduction to the Pharmacy Profession Credits: 1**
This course is a first-year course designed to introduce students to the pharmacy profession and the role of the pharmacist within the contemporary healthcare team. In addition, students will be introduced to academic success strategies, including identification of campus resources and guidance in academic planning and engagement.

**PHA 219 - Fundamentals of Health Care Practice I Credits: 1**
This course provides an introduction to the knowledge, skills, and attitudes that health professionals need for implementation of effective approaches to practice and care as well as personal and professional development.

**PHA 313 - Pharmacy Calculations Credits: 1**
Application of calculations required in pharmacy practice. Prerequisites: P1 year standing.

**PHA 323 - Pharmaceutical Biochemistry Credits: 4**
Chemical structure, function, biosynthesis and catabolism of biomolecules in order to understand the biochemical basis of disease and the metabolism and mechanism of action of medicinal agents. Prerequisites: P1 year standing.

**PHA 324 - Biomedical Science I Credits: 4**
Properties, activities, mechanism of action and therapeutic use of biologics (e.g., monoclonal antibodies, vaccines, therapeutic proteins) and technologies involved in their production. Prerequisites: P1 year standing, PHA 323.

**PHA 326L - Integrated Pharmacy Laboratory I Credits: 1**
Enhancement, integration, and application of knowledge and skills from the biomedical, pharmaceutical, clinical, and social/administrative pharmacy sciences. Prerequisites: P1 year standing.

**PHA 330 - Pharmacology for Allied Health Professions Credits: 3**
This course will discuss principles of pharmacology, including mechanism of drug action and adverse effects, for students in allied health professions majors. Applications of pharmacology to patient care will be emphasized.

**PHA 331 - Pharmaceutics I Credits: 4**
Theory, preparation and application of pharmaceutical dosage forms and drug delivery systems. Prerequisites: P1 year standing. Notes: Students admitted to the Pharmacy professional program prior to fall 2018 would complete PHA 331 - Pharmaceutics I.

**PHA 332 - Pharmaceutics II Credits: 2**
Theory, preparation and application of pharmaceutical dosage forms and drug delivery systems. Prerequisites: PHA 331. Notes: Students admitted to the Pharmacy professional program prior to fall 2018 would complete PHA 332-332L - Pharmaceutics II and Lab.

**PHA 340 - Medicinal Chemistry I Credits: 3**
Principles of medicinal chemistry leading to the clear understanding of pharmacotherapy Prerequisites: P1 year standing. Notes: Students admitted to the Pharmacy professional program prior to fall 2018 would complete PHA 340-340L - Medicinal Chemistry I and Lab.

**PHA 341 - Medicinal Chemistry II Credits: 3**
Principles of medicinal chemistry leading to the clear understanding of pharmacotherapy. Prerequisites: PHA 340. Notes: Students admitted to the Pharmacy professional program prior to fall 2018 would complete PHA 341-341L - Medicinal Chemistry II and Lab.

**PHA 342 - Self Care Pharmacotherapeutics I Credits: 1**
Self care therapeutic needs assessment and triage to other health professionals. Product recommendation/selection of non-prescription products such as over-the-counter medications, dietary supplements, complementary and alterative medicine, and medical devices. Education of patients on these products and health/wellness strategies. Prerequisites: P1 year standing.

**PHA 352 - Pathophysiology, Pharmacology and Toxicology I Credits: 3**
Pathophysiology of common and significant diseases, the pharmacology of medications used in treatment of those diseases, and basic principles of prevention and treatment of drug overdose and other poisonings. Prerequisites: P1 year standing and BIOL 325-325L.

**PHA 353 - Pathophysiology, Pharmacology and Toxicology II Credits: 3**
Continuation of Pathophysiology, Pharmacology & Toxicology I. Pathophysiology of common and significant diseases, the pharmacology of medications used in treatment of those diseases, and basic principles of prevention and treatment of drug overdoses and other poisonings. Prerequisites: PHA 352.

**PHA 363L - Pharmacy Skills Laboratory I Credits: 1**
Application of contemporary pharmacy knowledge and skills and patient care principles. Prerequisites: P1 year standing.

**PHA 364L - Pharmacy Skills Laboratory II Credits: 2**
Continuation of Pharmacy Skills Laboratory I. Application of pharmacy skills and patient care principles. Prerequisites: PHA 363L.

**PHA 367 - Pharmacy Practice I: Introduction to Pharmacy Practice Credits: 1**
The fundamental concepts of pharmacy practice are introduced. Pharmaceutical calculations, principles of pharmaceutical care and professional communication skills are introduced. Prerequisites: P1 year standing. Notes: Students admitted to the Pharmacy professional program prior to fall 2018 would complete PHA 367-367L - Pharmacy Practice I and Lab.

**PHA 368 - Pharmacy Practice II: Drug Information and Communication Credits: 2**
This is a continuation of Pharmacy Practice I. The fundamental concepts of pharmacy practice are further taught and developed. Pharmaceutical calculations, principles of pharmaceutical care and professional communication skills are expanded and reinforced. Drug information topics of effective retrieval, evaluation and dissemination of medication information are introduced. Prerequisites: PHA 367. Notes: Students admitted to the Pharmacy professional program prior to fall 2018 would complete PHA 368-368L - Pharmacy Practice II and Lab.

**PHA 410 - Introductory Practice Experience I Credits: 3**
Students apply the academic and theoretical knowledge they have acquired in didactic courses to practical situations within a pharmacy setting. Drug distribution activities of the pharmacist will be an emphasis of the course. Notes: Pass/Fail Grading.

**PHA 415 - Biopharmaceutics and Pharmacokinetics Credits: 4**
The study of physicochemical properties of drug formulations in relation to the bioavailability of drugs. Principles and application of various approaches to estimate pharmacokinetic parameters for designing drug dosage regimens. Prerequisites: P2 year standing.

**PHA 419 - Fundamentals of Health Care Practice II Credits: 1**
Continuation of Fundamentals of Health Care Practice I. Knowledge, skills, and attitudes that health professionals need for implementation of effective approaches to practice and care as well as personal and professional development. Prerequisites: P2 year standing and PHA 219.

**PHA 425 - Biomedical Science II Credits: 3**
Continuation of Biomedical Science I involving properties, activities, mechanism of action and therapeutic use of biologics (e.g. antibodies, vaccines, therapeutic proteins) and technologies involved in their production. Pathophysiology of microbial infections. Prerequisites: P2 year Standing.

**PHA 426L - Integrated Pharmacy Laboratory II Credits: 1**
Continuation of Integrated Pharmacy Laboratory I. Enhancement, integration, and application of knowledge and skills from the biomedical, pharmaceutical, clinical, and social/administrative pharmacy sciences. Prerequisites: P2 year standing and PHA 326L.

**PHA 430 - Pharmacy Practice Law Credits: 3**
State and federal laws and regulations. Prerequisites: P2 year standing.

**PHA 442 - Pharmacology I Credits: 5**
Principles of pharmacology leading to the clear understanding of pharmacotherapy. Prerequisites: P2 year standing.

**PHA 445 - Pharmacotherapeutics I Credits: 3**
Discussion of pharmacotherapeutic principles for the development of patient specific drug regimens in patients with acute and chronic disease states and conditions. Prerequisites: P2 year standing. Notes: Students admitted to the Pharmacy professional program prior to fall 2018 would complete PHA 445 - Pharmacotherapeutics I.

**PHA 446 - Pharmacotherapeutics II Credits: 3**
This course is the continuation of PHA 445, Pharmacotherapeutics I, with an emphasis on the discussion of pharmacotherapeutic principles for the development of patient specific drug regimens in patients with acute and chronic disease states and conditions. Prerequisites: PHA 445.

**PHA 452 - Pathophysiology, Pharmacology and Toxicology III Credits: 4**
Continuation of Pathophysiology, Pharmacology & Toxicology II. Pathophysiology of common and significant diseases, the pharmacology of medications used in treatment of those diseases, and basic principles of prevention and treatment of drug overdoses and poisonings. Prerequisites: P2 year standing and PHA 353.

**PHA 453 - Pathophysiology, Pharmacology and Toxicology IV Credits: 4**
Continuation of Pathophysiology, Pharmacology & Toxicology III. Pathophysiology of common and significant diseases, the pharmacology of medications used in treatment of those diseases, and basic principles of prevention and treatment of drug overdoses and other poisonings. Prerequisites: P2 year standing and PHA 452.

**PHA 463L - Pharmacy Skills Laboratory III Credits: 2**
Continuation of Pharmacy Skills Laboratory II. Application of pharmacy skills and patient care principles. Prerequisites: P2 year standing and PHA 364L.

**PHA 464L - Pharmacy Skills Laboratory IV Credits: 2**
Continuation of Pharmacy Skills Laboratory III. Application of pharmacy skills and patient care principles. Prerequisites: P2 year standing and PHA 463L.

**PHA 467 - Pharmacy Practice III: Research Evaluation and Pharmacoeconomics Credits: 2**
This is a continuation of Pharmacy Practice II. The fundamental concepts of pharmacy practice are further taught and developed. Practice skills developed in Pharmacy Practice I and II are expanded and reinforced. Drug information topics of effective retrieval, evaluation and dissemination of medication information are expanded and concepts of formulary management, monitoring and prevention of adverse drug effects are introduced. Topics including critical assessment of the medical literature, and elements of clinical research design are introduced. The principles of provision of pharmacy services in institutional and community settings are taught. Prerequisites: STAT 281 and P2 year standing. Notes: Students admitted to the Pharmacy professional program prior to fall 2018 would complete PHA 467-467L - Pharmacy Practice III and Lab.

**PHA 468 - Pharmacy Practice IV: Medication Safety and Sterile Compounding Credits: 2**
This is a continuation of Pharmacy Practice III. The concepts of pharmacy practice are further taught and developed. Practice skills developed in Pharmacy Practice I-III are expanded and reinforced. Topics in drug information evaluation and retrieval, as well as clinical research design and evaluation are further developed and reinforced. The principles of provision of pharmacy services in institutional and community settings are continued from Pharmacy Practice III. Prerequisites: P2 year standing. Notes: Students admitted to the Pharmacy professional program prior to fall 2018 would complete PHA 468-468L - Pharmacy Practice IV and Lab.

**PHA 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**PHA 610 - Introductory Practice Experience II Credits: 3**

**PHA 645 - Pharmacotherapeutics Across the Lifespan: Application to Advanced Practice Credits: 2-4**

**PHA 647 - Pharmacological Issues in Mental Health Counseling Credits: 3**

**PHA 700 - Directed Studies Practice Experience Credits: 5**

**PHA 701 - Home Health/Hospice Practice Experience Credits: 5**

**PHA 702 - Indian Health Services Practice Experience Credits: 5**

**PHA 703 - Pharmacy Administration Practice Experience Credits: 5**

**PHA 704 - Nutrition Support Practice Experience Credits: 5**

**PHA 705 - Clinical Research Practice Experience Credits: 5**

**PHA 706 - Critical Care Practice Experience Credits: 5**

**PHA 707 - Infectious Disease Practice Experience Credits: 5**

**PHA 708 - Surgery Practice Experience Credits: 5**

**PHA 709 - Nephrology Practice Experience Credits: 5**

**PHA 710 - Pharmacokinetics Practice Experience Credits: 5**

**PHA 711 - Oncology Practice Experience Credits: 5**

**PHA 712 - Nuclear Pharmacy Practice Experience Credits: 5**

**PHA 713 - Managed Care Practice Experience Credits: 5**

**PHA 714 - Community Pharmacy Practice Experience Credits: 5**

**PHA 716 - Hospital/Institutional Pharmacy Practice Experience Credits: 5**

**PHA 717 - Community Health and Patient Monitoring Practice Experience Credits: 5**

**PHA 719L - Pharmacy Capstone Credits: 1**

**PHA 720 - Introduction to Drug Discovery and Development Credits: 3**

**PHA 721 - Advanced Concepts in Medicinal Chemistry Credits: 3**

**PHA 724 - U.S. Health Care Systems Credits: 2**

**PHA 725 - Advanced Concepts in Biomedical Sciences and Pharmacogenomics Credits: 3**

**PHA 726L - Integrated Pharmacy Laboratory III Credits: 1**

**PHA 727 - Professional Resource Management Credits: 4**

**PHA 729 - Advanced Pharmacy Marketing and Management Credits: 2**

**PHA 730 - Topics in Advanced Pharmaceutical Sciences Credits: 3**

**PHA 738 - Health Informatics Credits: 1**

**PHA 740 - Advanced Concepts in Pharmacology Credits: 3**

**PHA 741 - Public and Population Health Credits: 2**

**PHA 742 - Self Care Pharmacotherapeutics II Credits: 2**

**PHA 743 - Pharmacogenomics Credits: 1**

**PHA 744 - End of Life Care Credits: 1**

**PHA 745 - Ambulatory Care Practice Credits: 2**

**PHA 746 - Professional Pharmacy Leadership Skills Credits: 1**

**PHA 747 - Advanced Clinical Nutrition Credits: 1**

**PHA 748 - Topics in Neonatal and Pediatric Pharmacotherapy Credits: 1**

**PHA 749 - Care of the Geriatric Patient Credits: 1**

**PHA 750 - Critical Care Therapeutics Credits: 2**

**PHA 751 - Cultural Perspectives in Pharmacy Practice Credits: 1**

**PHA 752 - Drugs of Abuse and Addiction Credits: 2**

**PHA 753 - Women and Children's Health Credits: 2**

**PHA 754 - Complementary and Alternative Medicine Credits: 1**

**PHA 755 - Forensic Pharmacology Credits: 2**

**PHA 756 - Pharmacotherapeutics III Credits: 4**

**PHA 757 - Pharmacotherapeutics IV Credits: 4**

**PHA 758 - Institutional Practice Based Research I Credits: 1**

**PHA 759 - Institutional Practice Based Research II Credits: 1**

**PHA 760 - Advanced Concepts in Pharmaceutics Credits: 3**

**PHA 761 - Pharmacotherapeutics V Credits: 5**

**PHA 762 - Pharmacotherapeutics VI Credits: 5**

**PHA 763L - Pharmacy Skills Laboratory V Credits: 1**

**PHA 764L - Pharmacy Skills Laboratory VI Credits: 1**

**PHA 765 - Techniques in Pharmaceutical Research Credits: 3**

**PHA 769 - Pharmaceutical Sciences Capstone Credits: 2**

**PHA 770 - Pediatrics Practice Experience Credits: 5**

**PHA 771 - Geriatrics Practice Experience Credits: 5**

**PHA 772 - Internal Medicine I Practice Experience Credits: 5**

**PHA 773 - Internal Medicine II Practice Experience Credits: 5**

**PHA 774 - Ambulatory Care Practice Experience Credits: 5**

**PHA 775 - Psychiatry Practice Experience Credits: 5**

**PHA 780 - International Pharmacy Practice Experience Credits: 5**

**PHA 788 - Master's Research Problems/Projects (COM) Credits: 1-8**

**PHA 790 - Seminar (COM) Credits: 1**

**PHA 791 - Independent Study (COM) Credits: 1-3**

**PHA 792 - Topics (COM) Credits: 1-3**

**PHA 798 - Thesis (COM) Credits: 1-8**

**PHA 847 - Grant Proposal and Academic Development Credits: 3**

**PHA 890 - Seminar Credits: 1**

**PHA 898 - Dissertation Credits: 1-10**

## PHGY (Physiology)

**PHGY 210-210L - Human Physiology and Lab (COM) Credits: 4**
Lectures, laboratory work and demonstrations of human physiological processes both normal and abnormal. Prerequisites: ANAT 142. Corequisites: PHGY 201L-210.

## PHIL (Philosophy)

**PHIL 100 - Introduction to Philosophy (COM) [SGR #4] Credits: 3**
Introduces competing philosophical views of reality, perception, learning, and values, emphasizing their relevance to the contemporary world. Notes: Course meets SGR #4.

**PHIL 102 - Data Ethics [SGR #3] Credits: 3**
A study of the social, political, economic and ethical implications of information and informatics on business and society. Other topics include information ownership, intellectual property and the social construction of information. Cross-Listed: INFO 102. Notes: * Course meets SGR #3.

**PHIL 200 - Introduction to Logic (COM) [SGR #4] Credits: 3**
Introduces the formal study of argumentation, including forms of logic, inductive and deductive reasoning, proofs, refutations, and fallacies. Notes: Course meets SGR #4.

**PHIL 215 - Introduction to Social-Political Philosophy (COM) [SGR #4] Credits: 3**
The search for order for society; major political and social theories from Socrates to the present and critical analysis of these theories. The relation of theories of human nature, metaphysics, epistemology, and ethics to the order in society. Notes: Course meets SGR #4.

**PHIL 220 - Introduction to Ethics (COM) [SGR #4] Credits: 3**
Examines the major currents and components of ethical theory from classical times to the present, investigating problems arising from specific theories, as well as critically analyzing the validity of these theories for current ethical concerns. Notes: Course meets SGR #4.

**PHIL 313 - Great Philosophers Credits: 2-3**
Explores the thinking of a selected philosopher. Seeks to understand the ideas behind the philosopher's thinking and their implication for the modern world. Notes: May be repeated for a total of 9 hours.

**PHIL 320 - Professional Ethics (COM) Credits: 3**
The study of major normative ethical theories and their application to concrete ethical situations likely to arise in the professional workplace. Emphasis placed on potential conflicts between the goals of the professions and the imperatives of the ethical life, and possibilities for resolution of such conflicts.

**PHIL 383 - Bioethics (COM) Credits: 4**
Ethical, social and policy dilemmas in medicine and biology. Cross-Listed: BIOL 383.

**PHIL 423 - Political Philosophy Credits: 3**
Survey of political philosophy, including analysis of important political philosophers from ancient and modern periods through the 20th century. Typical philosophers covered include Plato, Aristotle, Hobbes, Locke, Rousseau, Marx, and Rawls.

**PHIL 454 - Environmental Ethics (COM) Credits: 3**
Presents humanity's relationship to the environment, its responsibility to nature, and its obligations to future generations, attending to both theory and applications, including the debate over causes of environmental crisis, the value of endangered species, the wilderness, and natural objects; the seriousness of the growing global population and obligations to feed the poor, the feasibility of sustaining an ecological responsible society. Cross-Listed: REL 454.

**PHIL 462 - Modern Political Philosophy (COM) Credits: 3**
The course studies political theory since the Renaissance, including Locke, Rousseau, and others. Cross-Listed: POLS 462.

**PHIL 470 - Philosophy of Religion (COM) Credits: 3**
Presents critical inquiry concerning the concept of faith and its relation to reason and belief, the nature of religious experience, concepts of the sacred and the divine, and problems of cross-cultural understanding. Cross-Listed: REL 470.

**PHIL 480 - Ethics of Globalization Credits: 3**
A writing intensive, critical, and rigorous examination of the ethical bases and moral philosophical foundations which underpin, support, and justify globalization theory and practice. Cross-Listed: GLST 480.

**PHIL 491 - Independent Study (COM) Credits: 1-5**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**PHIL 492 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**PHIL 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience.

**PHIL 592 - Topics (COM) Credits: 1-3**

## PHTH (Physical Therapy)

**PHTH 142 - Introduction to Physical Therapy and Occupational Therapy Credits: 1**
Introduces students to the professions of physical and occupational therapy. Notes: Pass/Fail grading.

## PHYS (Physics)

**PHYS 101-101L - Survey of Physics and Lab (COM) [SGR #6] Credits: 4**
This is a one-semester conceptual course, designed to cover a broad range of physics topics. Critical thinking skills are developed as students apply topics to various problem situations. Students are encouraged to relate concepts learned to personal areas of interest. Topics include mechanics, states of matter, wave motion, sound and electricity magnetism. Credit will not be allowed in both PHYS 101 and PHYS 111-113 or PHYS 211-213. Corequisites: PHYS 101L-101. Notes: Course meets SGR #6.

**PHYS 111-111L - Introduction to Physics I and Lab (COM) [SGR #6] Credits: 4**
This is the first course in a two semester algebra-level sequence, covering fundamental concepts of physics. The sequence is appropriate for preprofessional majors requiring two semesters of physics. Topics include classical mechanics, thermodynamics, and waves. Prerequisites: Take one of the following: MATH 114, MATH 115, MATH 120, MATH 121, MATH 123, MATH 125, MATH 281 or consent. Corequisites: PHYS 111L-111. Notes: Course meets SGR #6.

**PHYS 113-113L - Introduction to Physics II and Lab (COM) [SGR #6] Credits: 4**
This course is the second course in a two semester algebra-level sequence, covering fundamental concepts of physics. Topics include electricity and magnetism, sound, light, optics, and some modern physics concepts. Prerequisites: PHYS 111. Corequisites: PHYS 113L-113. Notes: Course meets SGR #6.

**PHYS 115-115L - Physics of Structures and Buildings and Lab Credits: 4**
Students will learn and apply concepts of physics to buildings and structures using algebra and trigonometry. Principles of Newton and Kirchhoff's laws will be developed into mechanics, oscillations, thermodynamics, fluids, and circuits to explain the stability and failure of structures. Additional applications will focus on infrastructures (heating, wiring, lighting, acoustics, etc.) and energy concerns. Prerequisites: MATH 114, MATH 115, MATH 120, MATH 121-121L, MATH 123, or MATH 125. Corequisites: PHYS 115L-115.

**PHYS 119 - First Year Seminar in Physics (COM) Credits: 1**
A course designed to engage freshmen that have declared the major in Physics, as well as anyone else considering Physics as a major or minor. Students will explore academic success strategies, learn more about opportunities available within the Department, develop team building skills, and investigate the many careers that physics majors can enjoy.

**PHYS 185-185L - Solar System Astronomy and Lab (COM) [SGR #6] Credits: 3**
This is a descriptive course that introduces students to solar system astronomy. Emphasis is placed on the development of astronomy, optical instruments and techniques, and solar system objects. Corequisites: PHYS 185L-185. Notes: Course meets SGR #6.

**PHYS 187-187L - Stars, Galaxies, and Cosmology and Lab (COM) [SGR #6] Credits: 3**
This course is a descriptive course that introduces stellar astronomy. Emphasis will be placed on stars, nebulae, galaxies, and cosmology. Corequisites: PHYS 187L-187. Notes: Course meets SGR #6.

**PHYS 211-211L - University Physics I and Lab (COM) [SGR #6] Credits: 4**
This is the first course in a two semester calculus-level sequence, covering fundamental concepts of physics. This is the preferred sequence for students majoring in physical science or engineering. Topics include classical mechanics and thermodynamics. Prerequisites: MATH 123 or MATH 125. Corequisites: PHYS 211L-211. Notes: Course meets SGR #6.

**PHYS 213-213L - University Physics II and Lab (COM) [SGR #6] Credits: 4**
This course is the second course in a two semester calculus-level sequence, covering fundamental concepts of physics. This is the preferred sequence for students majoring in physical science or engineering. Topics include electricity and magnetism, sound, light, and optics. Prerequisites: PHYS 211 and MATH 123. Corequisites: PHYS 213L-213. Notes: Course meets SGR #6.

**PHYS 216-216L - Physical Science for Early Childhood and Lab Credits: 3**
Students will observe and analyze their physical world with tools appropriate for young children from birth to age eight. Developing and practicing strategies to engage the youngest learners in the physical world of playgrounds, kitchens, night and day skies will be a primary goal. This course will introduce and model the SD Early Learning Guidelines and the three dimensions of the South Dakota State Science Standards for kindergarten through third grade. Laboratory to accompany PHYS 216. Corequisites: PHYS 216L-216.

**PHYS 291 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**PHYS 292 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**PHYS 316-316L - Measurement Theory and Experiment Design and Lab Credits: 2**
This course looks at accuracy, precision and uncertainty and how these quantities propagate as experimental laboratory measurements are converted to experimental results. Laboratory portion of PHYS 316. Prerequisites: PHYS 113 or PHYS 213. Corequisites: PHYS 316L-316.

**PHYS 318 - Advanced Laboratory I Credits: 2**
Students perform selected experiments in classical and modern physics which illustrate principles and the development of physics, and emphasize experiment design and data analysis. Prerequisites: PHYS 316, PHYS 331 and EE 220 or EE 300 or consent.

**PHYS 331 - Introduction to Modern Physics (COM) Credits: 3**
This course concentrates on observations and theories of the 20th Century that carried the physicists' world-view beyond the classical. Prerequisites: PHYS 213 or PHYS 113 or consent.

**PHYS 341 - Thermodynamics (COM) Credits: 2**
This course is an intermediate level thermodynamics course dealing with systems from a macroscopic perspective. Topics include the first and second laws of thermodynamics, phase diagrams, and equilibria. Prerequisites: PHYS 213 and MATH 225.

**PHYS 343 - Statistical Physics (COM) Credits: 2**
This course provides a systematic introduction to the use of statistical principles applied to the study of thermodynamic systems. Prerequisites: PHYS 331, PHYS 341 and MATH 321 or consent.

**PHYS 361 - Optics (COM) Credits: 3**
This is an intermediate level study of geometrical and physical optics. Topics include analysis of refraction phenomena, thick lenses, wave nature of light, interference, diffraction, and polarization. Prerequisites: PHYS 113 or PHYS 213 and MATH 225.

**PHYS 418 - Advanced Lab II Credits: 1**
Students perform selected experiments in modern physics: gamma ray spectroscopy, half life, beta decay, positron annihilation, neutron capture, bubble chamber events, nuclear statistics, etc. Prerequisites: PHYS 316 or consent.

**PHYS 421-521 - Electromagnetism (COM) Credits: 4**
This is a course in the principles of electricity and magnetism, with applications to dielectric and magnetic materials. Topics include the development of Maxwell's equations, and applications. Prerequisites: PHYS 213, MATH 225 and MATH 321.

**PHYS 433-533 - Nuclear and Elementary Particle Physics (COM) Credits: 3**
This course covers fundamental topics in nuclear physics and elementary particles. Topics include radioactivity, nuclear spectra and structure, nuclear models, elementary particle theories and high energy physics. Prerequisites: PHYS 331/431 or PHYS 471.

**PHYS 437-537 - Foundations of Health Physics Credits: 3**
Health Physics studies the risk to health from radiation and the measures to assess and reduce that risk. This course is an introduction to several aspects of health physics including radiation quantities, limits and risk assessment, external and internal dosimetry, biological effects of radiation, interactions of radiation with matter, radioactive decay, radiation detection, and various applications of radiation. Prerequisites: MATH 123 or MATH 121-121L and PHYS 113-113L or PHYS 213-213L. Cross-Listed: NE 437-537.

**PHYS 439-539 - Condensed Matter Physics (COM) Credits: 3-4**
This course looks at solid materials from a microscopic level. Topics include basic crystal structure; mechanical and thermal properties; and electronic processes with reference to electrical properties of metals, semiconductors, and insulators. Prerequisites: MATH 225, MATH 321 and PHYS 331.

**PHYS 451-551 - Classical Mechanics (COM) Credits: 4**
This is a systematic introduction to classical mechanics emphasizing motion in three dimensions. Topics include central forces, harmonic oscillations, non-inertial reference frames, rigid body motion, and Lagrangian and Hamiltonian Mechanics. Prerequisites: (PHYS 113-113L or PHYS 213-213L) and MATH 321.

**PHYS 464 - Senior Design I Credits: 1**
This is the first course of the departmental capstone senior design sequence. The student will write the specifications for a design project and complete the initial design phase for this project addressing economic, environmental, social and success criteria. Prerequisites: Senior standing in the Physics Department.

**PHYS 465-465L - Senior Design II and Lab Credits: 2**
This course completes the departmental capstone senior design project. The student will construct, assemble, and test the project that they designed in PHYS 464. This is the laboratory portion of PHYS 465 where the design developed in PHYS 464 is built, tested, and made to work. Prerequisites: PHYS 464. Corequisites: PHYS 465L-465.

**PHYS 471-571 - Quantum Mechanics (COM) Credits: 4**
This is a systematic introduction to quantum mechanics, emphasizing the Schrodinger equation. Topics include simple soluble problems, the hydrogen atom, approximation methods and other aspects of quantum theory. Prerequisites: MATH 225, MATH 321, and PHYS 331/431.

**PHYS 481-581 - Mathematical Physics (COM) Credits: 4**
This course looks at mathematical methods used to formulate and solve problems in various fields of physics. Topics are chosen from: series solutions, special functions, computational methods, complex variables, multi-variate methods, transform methods, and other areas of mathematical applications to physics. Prerequisites: MATH 225 and MATH 321.

**PHYS 490 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

**PHYS 491-591 - Independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**PHYS 492-592 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**PHYS 494 - Internship (COM) Credits: 1-4**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**PHYS 496 - Field Experience (COM) Credits: 1-4**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**PHYS 497 - Cooperative Education (COM) Credits: 1-4**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**PHYS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive.

**PHYS 590 - Seminar (COM) Credits: 1-2**

**PHYS 683 - Mathematical Physics II (COM) Credits: 3**

**PHYS 691 - Independent Study (COM) Credits: 1-3**

**PHYS 721 - Electrodynamics I (COM) Credits: 3**

**PHYS 723 - Electrodynamics II (COM) Credits: 3**

**PHYS 739 - Condensed Matter Physics I (COM) Credits: 3**

**PHYS 743 - Statistical Mechanics (COM) Credits: 3**

**PHYS 749 - Condensed Matter Physics II Credits: 3**

**PHYS 751 - Classical Mechanics (COM) Credits: 3**

**PHYS 761 - Nuclear and Particle Physics (COM) Credits: 3**

**PHYS 771 - Quantum Mechanics I (COM) Credits: 3**

**PHYS 773 - Quantum Mechanics II (COM) Credits: 3**

**PHYS 775 - General Relativity (COM) Credits: 3**

**PHYS 779 - Group Theory (COM) Credits: 3**

**PHYS 783 - Quantum Field Theory (COM) Credits: 3**

**PHYS 785 - Astrophysics and Cosmology (COM) Credits: 3**

**PHYS 787 - Research Credits: 1-9**

**PHYS 788 - Master's Research Problems/Projects (COM) Credits: 1-5**

**PHYS 791 - Independent Study (COM) Credits: 1-3**

**PHYS 792 - Topics (COM) Credits: 1-3**

**PHYS 798 - Thesis (COM) Credits: 1-9**

## PLAN (Planning)

**PLAN 100 - Introduction to Planning Credits: 3**
This course introduces students to the meaning and theory of planning. Topics include the legal context of planning, plan creation and implementation, tools and methods of planning, professional ethics, sustainability and environmental quality, and an appreciation for the economic, social, and cultural factors in urban and regional growth and change.

**PLAN 471-571 - Principles of State, Regional and Community Planning Credits: 3**
Purpose, structure, and dynamics of the planning process. Identification of different types of planning. Inter-dependencies among persons who contribute to the planning process and are trained in separate academic disciplines. Basic techniques employed within different phases of the planning process.

**PLAN 472-572 - Techniques of State, Regional and Community Planning Credits: 3**
Brief review of basic approaches, procedures and methods employed within different phases of the planning process. Coordination required among persons trained in separate academic disciplines in order to carry out these basic techniques. Exercises in the practical application of selected techniques and review of their applications in ongoing to completed planning efforts. Prerequisites: PLAN 471-571.

**PLAN 491-591 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

## POLS (Political Science)

**POLS 100 - American Government (COM) [SGR #3] Credits: 3**
A study of the basic principles of the American system of government with emphasis on problems relating to governmental structure and policies. Notes: Course meets SGR #3.

**POLS 102 - American Political Issues (COM) [SGR #3] Credits: 3**
Provides an in-depth exploration of a particular problem or issue, such as environmental control, minorities or poverty. Students learn the basic skills needed to succeed as a political science major. Notes: Course meets SGR #3.

**POLS 141 - Governments of the World (COM) [SGR #3] Credits: 3**
An introduction to political systems of the world emphasizing political philosophy and comparative government. The course focuses on democratic systems other than the United States, authoritarian systems and third world systems. Notes: Course meets SGR #3.

**POLS 165 - Political Ideologies (COM) [SGR #3] Credits: 3**
Ideas defending communism, fascism, and democracy, including variations such as democratic socialism, Christian democracy, capitalism, liberalism, New Left, neo-conservatism, liberation theology. Practice of ideology. Concepts of comparative analysis. Notes: Course meets SGR #3.

**POLS 210 - State and Local Government (COM) [SGR #3] Credits: 3**
An analysis of the legal status, powers and functions, intergovernmental relations and political problems of state and local governments. Notes: Course meets SGR #3.

**POLS 225 - Introduction to Moot Court Credits: 3**
Introduction to the judicial process and appellate advocacy through the study of oral arguments. Focus on developing legal research, writing, and communication skills to produce persuasive advocacy briefs and oral arguments. Students will participate in moot court simulations that involve presenting oral arguments and serving as appellate judges.

**POLS 253 - Current World Issues [SGR #3] Credits: 3**
An examination of several current world problems with a focus on creating world order. Course content varies to accommodate current issues. Notes: Course meets SGR #3.

**POLS 305 - Women and Politics (COM) Credits: 3**
This course explores a variety of perspectives in feminist political thought. Particular emphasis is placed on barriers women face in gaining access to political power in public and private institutions, both in American society and in global contexts. Cross-Listed: WMST 305.

**POLS 320 - Public Administration (COM) Credits: 3**
This course uses simulations and public management cases, as well as contemporary public administration literature, to introduce students to the theory and practice of public administration. Students work in teams to resolve issues and problems common to the public service environment.

**POLS 330 - Civil Rights and Liberties Credits: 3**
Individual First Amendment guarantees, constitutional rights of the accused in the criminal process and equal protection of the law as interpreted through U.S. Supreme Court decisions. Cross-Listed: CJUS 330.

**POLS 331 - US Congress (COM) Credits: 3**
This course provides intensive examination of the role of Congress in American government, including congressional elections, representation, the organization of Congress, and congressional policy making. It examines the larger context of congressional politics, including political parties, the president, and interest groups.

**POLS 337 - Constitutional Law: Government Powers Credits: 3**
Explores the U.S. Supreme Court's institutional and political role in deciding constitutional issues regarding the separation of powers, federalism, political rights, and Native Americans.

**POLS 338 - Constitutional Law: Civil Rights and Liberties Credits: 3**
Explores the U.S. Supreme Court's institutional and political role in deciding constitutional issues regarding individual First Amendment guarantees, Second Amendment gun rights, criminal protections, and Fourteenth Amendment due process and equal protection. Cross-Listed: CJUS 338.

**POLS 341 - Europe Democratic Government (COM) Credits: 3**
Comparative study of selected governments of West Europe, especially Britain, France, Germany, and Italy; decision-making institutions; political culture; political parties.

**POLS 345 - Model United Nations (COM) Credits: 3**
This course explores the institutional design, history, challenges, and competing rationales for the existence and responsibilities of the United Nations.

**POLS 350 - International Relations (COM) Credits: 3**
How nations/states behave and why they behave as they do in their relations with each other.

**POLS 360 - Politics of Inequality (COM) Credits: 3**
This course confronts the inequality present in the American political system. Some of the topics that will be addressed include economic, political and social inequality. The course material explores and analyzes the causes and effects of inequality, the role of political actors and institutions in both perpetuating and remedying inequality, and contemporary current events relating to issues of inequality.

**POLS 381 - Imperialism, Then and Now Credits: 3**
The course seeks to understand formal and informal imperialism as a distinct, singular process, which has played a central role in world economy since 1500. The course will analyze gender, ethnic, racial and class inequality at the local, state and global level. Contemporary implications of imperialism will be discussed, especially in the context of economic development and democratization prospects in the Global South. Spanish, Dutch, British, Ottoman and Russian Empires will be covered. Cross-Listed: HIST 381.

**POLS 388 - Research Methods Credits: 3**
An investigation into the basic concepts, principles, and techniques employed to study politics. Prerequisites: ENGL 201 and POLS 100.

**POLS 392 - Topics (COM) Credits: 3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**POLS 429 - Courts and Judicial Politics (COM) Credits: 3**
Explores the processes and politics of the state and federal judicial systems, judicial selection, agenda setting, decision-making, and the influence of outside parties on legal policy.

**POLS 432 - The American Presidency (COM) Credits: 3**
A study of the constitutional background, development, powers, responsibilities and roles of the American presidency, with comparisons to other executives.

**POLS 434 - Interest Groups and Lobbying (COM) Credits: 3**
This course explores interest group politics and lobbying tactics used in the executive, legislative, and judicial branches of government. Course assignments are directed at developing advocacy-related research, writing, and communication skills that result in persuasive and effective lobbying materials and meetings. Students will frequently participate in lobbying meeting simulations that involve creating and presenting lobbying materials and serving as lobbyists or government officials and employees.

**POLS 435 - Political Parties and Campaigns (COM) Credits: 3**
United States political parties; functions, organization, techniques and significance of parties; varieties of state and local systems; and behavior of the electorate and interest groups.

**POLS 447 - Latin American Politics (COM) Credits: 3**
This course surveys the political history and current domestic politics of Latin America. The class is designed to provide a comparative analysis of the political institutions, social movements and patterns of change, political culture, civil-military relations, and development strategies for a wide subsection of Latin American countries.

**POLS 452 - Globalization and Development (COM) Credits: 3**
This course will examine the role of the market in the contemporary debates over economic development in international politics. We will scrutinize various arguments concerning capitalist development as it applies to the nation-state.

**POLS 453 - American Foreign Policy (COM) Credits: 3**
An analysis of the formulation and execution of American foreign policy. Emphasis will be placed on national security issues and American policies with regard to particular regions and countries.

**POLS 457 - Foreign Policy Decision Making Credits: 3**
Understanding human decision making is central to the study of foreign policy. This course explores various decision-making frameworks, such as rational choice theory, prospect theory, and personality theories, to inform the study of international behavior. This course offers a more complete understanding of how leaders make foreign policy decisions and examines several cases of American foreign policy.

**POLS 458 - Democracy and Authoritarianism (COM) Credits: 3**
This seminar course will examine democracy, democratization, democratic transitions, democratic consolidation, and democracy promotion from a comparative politics and international relations perspective.

**POLS 489 - Capstone (COM) Credits: 3**
Serves as the capstone for the Political Science major. The course requires completion of a senior portfolio and focuses on a topic selected by the professor and approved by the chair of the department. The course is open only to Political Science majors with senior standing. Prerequisites: POLS 205/CJUS 205 or POLS 388.

**POLS 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**POLS 492 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**POLS 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**POLS 496 - Field Experience (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**POLS 592 - Topics (COM) Credits: 1-4**

## PRAG (Precision Agriculture)

**PRAG 203-203L - Introduction to Precision Agriculture and Lab Credits: 3**
Introduction to the tools and equipment used in precision farming practices. Topics covered include: Global positioning system, sources of error, correction options and accuracy, GIS, Ag equipment receivers, displays, guidance systems, yield monitors, and utilizing collected field data for optimal production practices. Corequisites: AST 203L-203.

**PRAG 304-304L - Electrical Diagnostics for Farm Machinery and Lab Credits: 3**
This course is designed to help students understand basic electricity, electronics, and electrical machines as applied in agricultural systems. Topics covered include Ohm's law and Kirchhoff's law, AC and DC circuits, servicing agricultural electronic systems, troubleshooting techniques and procedures, schematic interpretation, measurement techniques, common sensors and control systems for agricultural equipment, and CANbus communication. Prerequisites: AST 342-342L or ET 210.

**PRAG 310 - Sustainable Agriculture Credits: 3**
This course is intended for students with an interest in sustainable food production systems. It provides a broad overview of practices in a variety of ecological, social, and economic topics within the framework of sustainability. Students will analyze the sustainability of food production from both a conventional and a precision agriculture aspect. Prerequisites: PS 103-103L and PS 213-213L.

**PRAG 340 - Climate Risk Management with Precision Agriculture Credits: 3**
This course will address the multiple temporal and spatial interactions of climate/weather and agriculture. Students will learn about land surface interactions and issues related to measurements at the soil, crop and atmosphere interface. Large scale climate issues impacting overall crop production including climate variations inter-annually such as El Niño and large scale climate changes will be discussed. Students will develop an understanding of the atmospheric components and background and limitations of various agricultural decision-making tools used.

**PRAG 345-345L - Principles and Implications of Chemical Application Systems and Lab Credits: 3**
Applications systems, components, operating procedures, and safety practices for liquid, granular, and wet solid chemicals. Sprayers, dry spreaders, seed starter applicators, soil injection systems, and manure applicators will be covered. Topics include machine sizing, calibration, maintenance, safe chemical handling and spill cleanup, and risk mitigation through precision application technology.

**PRAG 410-410L/510-510L - Soil Geography and Land Use Interpretation and Lab Credits: 2, 1**
Relationship of soil characteristics and soil classification to land use interpretations. Laboratory exercises involve field and laboratory procedures used in soil survey investigations. Lab to accompany PS 410. Prerequisites: GEOG 132-132L or PS 213-213L or instructor consent. Corequisites: PRAG 410L-410/510L-510. Cross-Listed: GEOG 410-410L/510-510L.

**PRAG 423-523 - Soil Fertility and Plant Nutrient Management Credits: 3**
Soil fertility management and its effects on the growth of crops, including evaluation, uptake, and utilization of specific ions by plants, use of fertilizer elements to alter soil fertility, importance of crop residue management to maintain and improve productivity, and chemical composition of fertilizers and their characteristics. Prerequisites: PS 213-213L.

**PRAG 424-524 - Wheat Production Credits: 2**
Topics in this course address agronomic management for spring and winter wheat production. Topics covered in this course include determining wheat crop insurance; seeding rates; seed treatments; weed management; wheat impact on crop rotations; nitrogen, phosphorus, potassium, chloride, and sulfur fertilizer management; fungicide and disease management; fertilizing for grain protein and yield; estimating yield in season; harvest parameters; and cover crops. Prerequisites: PS 103-103L, PS 213-213L and Junior or Senior standing.

**PRAG 425-525 - Soybean Production Credits: 2**
Soybean crop production and management across all growth stages. Among the topics addressed in this course include soybean crop insurance; variety selection; seeding rates; seed treatments and inoculations; weed, disease, and pest management; fertilizers and applications; crop maturity factors that impact harvest. Prerequisites: PS 103-103L, PS 213-213L and Junior or Senior standing.

**PRAG 426-526 - Corn Production Credits: 2**
The objective of this course is corn production management ranging across a year. Topics addressed in this course include corn crop insurance; variety selection; seeding rates; fertilizers and application methods; weed, disease and pest management; harvest issues; crop rotations and cover crops. Prerequisites: PS 103-103L, PS 213-213L and Junior or Senior standing.

**PRAG 427-527 - Precision Ag Data Mapping Credits: 2**
Mapping agronomic field data and generating management zones using appropriate industry software on the commercial market. Prerequisites: Junior standing, Agronomy, Agricultural Systems Technology, Agricultural Science, or Precision Agriculture majors.

**PRAG 428 - Use of Soil and Plant Sensors in Crop Production Credits: 3**
Use of sensors commonly used in agronomy to measure soil and plant parameters in crop production. Commercially available sensors are used in experiential learning modules. Prerequisites: PRAG 427-527.

**PRAG 440-440L/540-540L - Crop Management with Precision Farming and Lab Credits: 3**
Principles of precision farming for crop production will be the focus. An integrated approach to crop management based on global positioning, geographic information systems, soil testing and fertility recommendations, spatial data storage, and data interpretation for farming and land use decisions will be covered. The use of spatial statistics to make site specific management recommendations will be discussed. Prerequisites: PRAG 427. Corequisites: PS 440L-440/540L-540.

**PRAG 491 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meeting depending upon the requirements of the topic.

**PRAG 492 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**PRAG 494 - Internship (COM) Credits: 1-6**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than in the case with field experience courses.

**PRAG 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**PRAG 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

## PS (Plant Science)

**PS 103-103L - Crop Production and Lab Credits: 2, 1**
Practices and principles; crop distribution; growth processes; response to environment. Grain and forage crops, including their distribution, use, improvement, growth, harvesting, and marketing. Corequisites: PS 103L-103.

**PS 105 - Insects and Society Credits: 3**
This non-technical course introduces a wide variety of ways that humans interact with urban and agricultural insects in today's world. It covers the extremely valuable roles where insects are essential to human survival and commerce. The course also reveals where pests are responsible for being disastrous competitors with humans.

**PS 119 - First Year Seminar Credits: 1**
First year seminar course is designed to introduce students to academic success strategies including the development of critical thinking and study skills, awareness of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate careers in the agronomy, horticulture, and plant science fields and work on career preparedness and engagement strategies. Students will also investigate diversity and the land-grant mission of SDSU.

**PS 210-210L - Turf and Weed Management in Horticulture and Lab Credits: 3**
Introduction to basic maintenance and culture of turfgrass, and identification and management of common weeds found in horticultural settings (Turf, nursery, food crops, etc.). The use of cultural, biological, chemical and physical methods of turf and weed management will be discussed. Turf and weed identification, control methods, and related activities will be addressed in the laboratory. Prerequisites: HO 111 or PS 103. Corequisites: PS 210L-210. Cross-Listed: HO 210-210L.

**PS 213-213L - Soils and Lab [SGR #6] Credits: 2, 1**
Development and classification of soils; physical, biological, and chemical properties; management aspects, including water, fertility, and erosion; soils in the environment. Prerequisites: CHEM 106-106L or CHEM 112-112L. Corequisites: PS 213L-213. Notes: Course meets SGR #6.

**PS 223-223L - Principles of Plant Pathology and Lab Credits: 2, 1**
Principles underlying cause, spread, symptomology, diagnosis, and control of plant diseases. Principles exemplified by detailed study of specific diseases. Laboratory stresses diagnosis and experimental elucidation of principles. Prerequisites: BIOL 103-103L or BIOL 153-153L or BOT 201-201L. Corequisites: PS 223L-223.

**PS 243 - Principles of Geology [SGR #6] Credits: 3**
The earth's land and natural resources, their characteristics and economic uses together with the water and energy resources contained in them are examined under the principle of stewardship. A fundamental emphasis using information derived from the scientific method to arrive at intelligent stewardship perspectives and practices prevails through the course. Prerequisites: CHEM 106 or CHEM 112 or equivalent. Notes: Course meets SGR #6.

**PS 244 - Geological Resources of South Dakota Lab [SGR #6] Credits: 1**
The geology laboratory consists of a field study across South Dakota and back observing how our land and natural resources are being economically and aesthetically utilized and discussing their future from a stewardship perspective. Most of South Dakota's mining and extractive industries together with groundwater utilization and possibilities for contamination will be studied. Prerequisites: PS 243. Notes: Course meets SGR #6.

**PS 255-255L - Woody Plants and Lab Credits: 4**
Nomenclature, classification, identification and use of trees, shrubs and vines for the Northern Great Plains. Prerequisites: HO 111 or BIOL 101. Corequisites: PS 255L-255. Cross-Listed: HO 255-255L.

**PS 285 - Agricultural Computations Credits: 2**
Integrating technology in production agriculture is becoming more and more prevalent in the world of digital agriculture. This course uses spreadsheet technology as a tool to enhance the student's ability to communicate data-driven information with farmers, ranchers, and agribusiness. This course can be helpful for those who have never used spreadsheets or for those who want to learn to do more and learn how to use this technology in precision agriculture. Cross-Listed: HO 285.

**PS 308-308L - Grain Grading and Lab Credits: 1, 1**
Grain grading, crop and weed seed identification. Grain market grading and quality determinations. Plant identification of field crops and weeds of major importance in the United States. Prerequisites: PS 103-103L. Corequisites: PS 308L-308.

**PS 311-311L - Herbaceous Plants and Lab Credits: 3**
Identification, description, landscape uses, propagation, culture and adaptability of selected non-woody ornamental plants with emphasis on annuals, perennials and indoor plants. Prerequisites: HO 111, BOT 201, or consent. Corequisites: PS 311L-311. Cross-Listed: HO 311-311L.

**PS 312 - Grain and Seed Production and Processing Credits: 3**
Distribution, adaptation, and culture of grain crops. Production and harvesting of seed crops. Seed processing, cleaning procedures, machinery, conditioning drying, storage, and marketing; production of certified and hybrid seed crops. Prerequisites: PS 103-103L or HO 111-111L.

**PS 313 - Forage Crop and Pasture Management Credits: 3**
Grasses and legumes; their establishment, management, and use for hay, pasture, and silage. Prerequisites: BIOL 101 or BIOL 151. Field trips required.

**PS 320 - Crop Judging Credits: 1-2**
Advanced course in seed and plant identification of crops and weeds, seed analysis and grain grading. Students are expected to enroll in Grain Grading (PS 308) the preceding spring semester and to enroll in PS 320 during the fall semester to compete in regional and national contests. Prerequisites: PS 103-103L and PS 308-308L.

**PS 321 - Soil Judging Credits: 1**
Practical experience in evaluating the physical and chemical properties of soils important in soil judging and in making land use decisions. Soil forming factors, soil classification, land use interpretations, and soil morphology. Participation in regional intercollegiate soil judging contests and field trips. Prerequisites: PS 213-213L. Notes: May be repeated for a maximum of 3 credits.

**PS 329 - Horticultural Pests Credits: 3**
A survey of diseases, disorders, insects and mites of horticultural crops. The crops covered include fruits, perennials, trees, shrubs and vegetables in ornamental, field and nursery production systems. Management will be covered following the principles and practices of integrated pest management and plant health care. Cross-Listed: HO 329.

**PS 339 - Arboriculture and Urban Forestry Credits: 3**
The practice and science of establishment and cultivation of woody plants; vines, shrubs and trees; in managed landscapes. The course will also cover the skills needed to manage the care of mature trees in communities and windbreaks. Cross-Listed: HO 339.

**PS 345 - Non-Chemical Weed Management Credits: 3**
This course explores weed management options without the use of synthetic herbicides. Biological and ecological relationships between crops and weeds are characterized. Site specific and sustainable weed management systems are explored with emphasis on mechanical, cultural, and biological methods. Environmentally sustainable weed management methods are discussed in organic and non-organic farming. Prerequisites: PS 103-103L or HO 111-111L. Cross-Listed: HO 345.

**PS 383-383L - Principles of Crop Improvement and Lab Credits: 3**
Evaluation of crop species, reproduction in crop plants, use of genetic variability, traits of interest, breeding programs, designs and management. Heritability, plant introduction, vegetative propagation, hands-on lab demonstrations. Prerequisites: PS 103-103L or HO 111-111L; and BIOL 103-103L or BIOL 153-153L or BOT 201-201L. Corequisites: PS 383L-383. Cross-Listed: HO 383-383L.

**PS 403-403L/503-503L - Seed Technology and Lab Credits: 2, 1**
Seed testing; history, testing methods, and seed testing organizations. Seed development, maturation, anatomy, physiology, dormancy, and aging processes. Identification and classification of crop and weed seeds. Prerequisites: PS 103-103L or HO 111-111L. Corequisites: PS 403L-403/503L-503.

**PS 405-405L/505-505L - Entomology and Lab (COM) Credits: 3**
An introduction to the general biology and classification of insects. Course emphasis placed on taxonomy, methods of identification, and ecological role of insects. Students will become familiar with basic insect anatomy and morphology, classification at the order level with exemplary families that include taxa of agricultural or environmental interest, and acquire an ability to sight recognize particular species that have agricultural, environmental, wildlife, and human and livestock health importance. Field trips and a collection are required. Prerequisites: "C" or better in BIOL 151-151L. Corequisites: PS 405L-405/505L-505. Cross-Listed: NRM 405-405L/505-505L.

**PS 407-407L/507-507L - Insect Pest Management and Lab Credits: 2, 1**
Covers the major insect pests of the Northern Great Plains with emphasis on field biology, recognition, field scouting, and economic thresholds. Pest management strategies of insects affecting row crops, small grains, hayland and rangeland will be included. Pesticide application methods and safety are included. Corequisites: PS 407L-407/507L-507.

**PS 411-511 - Fruit Crop Systems Credits: 1-6**
Studies in perennial fruit crop production and management systems. Credit earned will depend on the number of 1 credit modules taken. Course may be repeated as long as the topic module(s) are not repeated. Topic modules could include: tree fruit production systems; small fruit production systems; viticulture; perennial fruit; integrated pest management; native fruit production systems; fruit harvest, quality, and postharvest care; vines and wines; fruit value-added systems; pruning fruit crops; cover crop management, marketing specialty fruit crops. Cross-Listed: HO 411-511.

**PS 412-512 - Environmental Soil Chemistry Credits: 3**
Fundamentals of soil chemical properties and processes important for the sound management of soil resources. Topics include sorption/desorption of inorganic and organic compounds, bioavailability of nutrients and contaminants, oxidation/reduction, phase equilibria, soil organic matter, soil mineralogy, ion exchange, and saline/sodic soils. Prerequisites: PS 213-213L and CHEM 108-108L or CHEM 120-120L.

**PS 413-413L/513-513L - Greenhouse and High Tunnel Management and Lab Credits: 3**
Greenhouse construction, environmental control, production and scheduling of major greenhouse crops. Trips to commercial greenhouse operations and laboratory work in greenhouse crop production. Corequisites: PS 413L-413/513L-513. Cross-Listed: HO 413-413L/513-513L.

**PS 414-414L/514-514L - Plant Propagation and Lab Credits: 3**
Fundamental anatomical and physiological principles and methods of reproducing herbaceous and woody plants by seeds, cuttings, grafts, layers and division. Prerequisites: HO 111, BOT 201 or consent. Corequisites: PS 414L-414/514L-514. Cross-Listed: HO 414-414L/514-514L.

**PS 415-415L/515-515L - Mycology and Lab (COM) Credits: 3**
Comprehensive taxonomic survey of the Kingdom Fungi; reproductive biology, physiology, genetics, and ecology of fungal organisms; relationship of fungi to human affairs. Laboratory experience that accompanies PS 415-415L/515-515L Prerequisites: BIOL 101-101L or BIOL 103-103L or BIOL 151-151L or BIOL 153-153L. Corequisites: PS 415L-415/515L-515. Cross-Listed: BIOL 415-415L/515-515L.

**PS 416-516 - Landscape Nursery Management Credits: 3**
A study of current nursery and garden center crop cultural practices and business management. Topics to be covered include nursery and garden center design and organization, field and container crop production, transplanting, pricing, and shipping techniques. The working relationship between nurseries, landscape designers and contractors is also discussed. Prerequisites: HO 111, PS 213. Cross-Listed: HO 416-516.

**PS 421-421L/521-521L - Soil Microbiology and Lab Credits: 3**
Microbial species of agricultural soils, environmental factors affecting their numbers and activity, and biochemical changes brought about by these organisms. Laboratory course to accompany PS 421 Prerequisites: BIOL 151-151L and BIOL 153-153L or BOT 201-201L. Corequisites: PS 421L-421/521L-521. Cross-Listed: MICR 421-421L/521-521L.

**PS 426-426L/526-526L - Production of Wine Beer Spirits and Laboratory Credits: 3**
Students will learn the procedures required for the biological and agricultural production of wine, beer and spirits coupled with the science of fermentation and the methodology required for the tasting of wine and beer for flavor/odor identification per industry guidelines. Lecture topics of student inquiry include: (1) the brewing of beer and the functional contributions of its ingredients, (2) wine production from vine to bottle, (3) the distillation of spirits and (4) the marketing, pairing and service of wine, beer and spirits. This course is designed for students/graduates who will potentially go into the business of not only growth and production, but also marketing and serving wine, beer and spirits. Laboratory investigation includes hands-on opportunities involving the production of beer and wine. Students will experiment with production parameters and investigate quality defects. Wine and beer quality will be assessed through laboratory testing coupled with taste testing without consumption (taste and spit) both per industry specifications. Students will develop skills in identifying specific flavors/odors such as oak, butter or lemon in wine and similar tasting techniques in beer. Prerequisites: Participants must be 21 years of age or older to enroll. Corequisites: PS 426L-426/526L-526. Cross-Listed: HO/NUTR 426-426L/526-526L.

**PS 431-531 - Insect Ecology and Biological Control Credits: 3**
This course will examine the ecological relationships between insects and their environment. Topics will include natural history, behavior, population dynamics, interactions between insects and their food plants, predators, and diseases; insect evolutionary ecology, and insect agroecology. These topics will also be explored in the context of the biological control of arthropod and weed pests by natural enemies.

**PS 433-533 - Field Crop Diseases and Management Credits: 3**
Learn principles of plant disease management; develop strategies to manage plant diseases using fungicides (mode of action, product label, equipment, formulation, fungicide resistance, etc.), host resistance, cultural practices (cover crops, plant nutrition, etc.), biological control and precision agriculture. Prerequisites: PS 223-223L or instructor consent.

**PS 434-534 - Local Food Production Credits: 2**
Topics include planning, planting, cultivation, harvest, season extension and marketing of fruits and vegetable crops. Experiential learning model. Cross-Listed: HO 434-534.

**PS 435 - Local Food Production: Harvest and Storage Credits: 2**
Topics include best practices for efficient harvest, access to produce in the field, determining maturity, harvest process for various crops, transport of produce to processing area, cleaning, chilling, packaging, post-harvest care for short and longer-term storage, types of storage facilities, marketing and sales. Cross-Listed: HO 435.

**PS 444-544 - Vegetable Crop Systems Credits: 1-6**
Studies in vegetable crop production and management systems. Credit earned will depend on the modules taken. Course may be repeated as long as the module(s) are not repeated. Potential topic modules could include: root crop systems; cucurbit production systems; vegetable legumes; herbs; solanaceous crops; heirloom vegetable crops; integrated pest management; market gardening; organic production systems; extended season crop management; leaf and cool season crops; annual crop rotation systems; marketing specialty crops. Cross-Listed: HO 444-544.

**PS 445-445L/545-545L - Weed Science and Lab Credits: 3**
Fundamentals of mechanical, cultural, biological and chemical weed control practices and factors affecting control. Herbicide classification and mechanism of action. Plant and seed identification of common weeds of North Central States and their interaction with desirable plants. Prerequisites: Take PS 103-103L or HO 111-111L; and CHEM 108-108L or CHEM 120-120L or CHEM 326-326L. Corequisites: PS 445L-445/545L-545.

**PS 447-547 - Organic Plant Production Credits: 3**
This course provides a detailed overview of organic farming for both small scale suburban and urban settings. The topics covered will include: organic certification, soil and nutrient management, pest and disease ID and management, High-Tunnel management, and marketing. Cross-Listed: HO 447-547.

**PS 462-462L/562-562L - Environmental Soil Management and Lab Credits: 3**
Management systems designed to maintain soil productivity and environmental quality are examined. Soil problems important in production systems and environmental management including compaction, erosion, and nonpoint pollution are analyzed based on underlying environmental and agronomic principles. Computer simulation models are used and applied to soil problems. Prerequisites: PS 213-213L. Corequisites: PS 462L-462/562L-562.

**PS 483-583 - Irrigation – Crop and Soil Practices Credits: 3**
Problems of irrigated agriculture. Soil salinity and salt-affected soils, water quality, management of irrigated crops; cropping systems; water, fertility requirements of irrigated agriculture, water movement, storage, and release in soils. Prerequisites: PS 213-213L and (MATH 114 or MATH 115 or MATH 123).

**PS 490 - Seminar (COM) Credits: 1**
A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media, such as internet, and are at the upper division or graduate levels. Enrollment is generally limited to 20 or fewer students. Prerequisites: Registration in, enrollment in, or completion of PS 494.

**PS 491 - Independent Study (COM) Credits: 1-5**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**PS 492 - Topics (COM) Credits: 1-3**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

**PS 494 - Internship (COM) Credits: 1-2**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses. Prerequisites: Written consent. Notes: May repeat course for a total of 2 credits.

**PS 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**PS 543 - Bioenergy Feedstock Production Systems Credits: 3**

**PS 580 - Environmental Stress Physiology Credits: 3**

**PS 664 - Molecular Plant Physiology Credits: 3**

**PS 714-714L - Genetics of Disease Resistance and Host-Plant Pathogen Interaction and Lab Credits: 4**

**PS 721 - Advanced Integrated Crop Pest Management Credits: 3**

**PS 723-723L - Hydrologic Modeling and Lab Credits: 1, 2**

**PS 732 - Field Studies in Pedology Credits: 2**

**PS 733 - Advanced Soil Genesis Credits: 3**

**PS 735 - Next Generation Sequencing Data Analysis Credits: 2**

**PS 741 - Crop Breeding Techniques Credits: 1**

**PS 743-743L - Environmental Soil Physics and Lab Credits: 2, 1**

**PS 744 - Soil Nitrogen, Phosphorous, and Potassium Credits: 3**

**PS 746 - Plant Breeding Credits: 3**

**PS 753 - Soil Water Quality in Bioenergy Feedstock Production Systems Credits: 3**

**PS 756 - Quantitative Genetics Credits: 3**

**PS 761-761L - Taxonomy of Insects and Lab Credits: 4**

**PS 763 - Crop Physiology Credits: 3**

**PS 781 - Plant Science Graduate Seminar Credits: 1**

**PS 785-785L - Soil and Plant Analysis and Lab Credits: 3**

**PS 787 - Advanced Plant Breeding Credits: 3**

**PS 788 - Master's Research Problems (COM) Credits: 1-3**

**PS 791 - Independent Study (COM) Credits: 1-5**

**PS 792 - Topics (COM) Credits: 1-3**

**PS 798 - Thesis (COM) Credits: 1-7**

**PS 898D - Dissertation-PhD (COM) Credits: 1-7**

## PSYC (Psychology)

**PSYC 101 - General Psychology (COM) [SGR #3] Credits: 3**
This course is an introduction survey of the field of psychology with consideration of the biological bases of behavior, sensory and perceptual processes, learning and memory, human growth and development, social behavior and normal and abnormal behavior. Notes: Course meets SGR #3.

**PSYC 201 - The Field of Psychology Credits: 1**
This course is designed to provide students with an overview of the field of psychology, including the variety of career options available with undergraduate and graduate degrees. Students discuss their present and future goals as a Psychology major and are introduced to concerns in the professional field of psychology. Prerequisites: PSYC 101.

**PSYC 202 - The Psychology Major (COM) Credits: 3**
This course is designed to familiarize psychology majors with career activities, writing in psychology, elementary introduction to psychological research methods, and ethics in psychology. Prerequisites: Psychology Major, ENGL 101(C or better) and PSYC 101(C or better).

**PSYC 210 - Introduction to Biopsychology Credits: 3**
This course is an introduction to the scientific study of the biology of behavior and mental processes. It encompasses topics ranging from the origins of movement to the origins of cognitive processes, and descriptions of the basic functions of cells within the nervous system to theorizing about the ways these functions come together to create the human experience. Biopsychology effectively describes aspects of changes within the nervous system that occur during learning, development, psychological disorders, therapies, and virtually every other content area housed within psychology. Prerequisites: PSYC 101.

**PSYC 244 - Environmental Psychology Credits: 3**
This course surveys the empirical and theoretical work on the influence of the physical environment on human behavior and experience. Topics include the use of space, stressors and esthetics as related to human beings, the optimum design of buildings, homes and institutions, and the effect of humans on the natural environment. Designed for both psychology majors and non-majors. Prerequisites: PSYC 101 or PSYC 102.

**PSYC 287 - Controversial Issues in Psychology Credits: 3**
This course involves an intensive look at the branches of and topics in psychology with particular emphasis on critical thinking applied to controversial issues. Critical thinking is clear, accurate, and defensible thinking; thus, this course is designed to help students develop the intellectual tools they need to learn from and analyze information independently. Prerequisites: PSYC 101 or PYCH 102.

**PSYC 301 - Sensation and Perception (COM) Credits: 3**
This course is a study of the bases of sensation and perception including the physics and physiology of sensory receptor function, central nervous system functions in information processing, and cognitive and attentional factors in perception. Prerequisites: PSYC 101 or PSYC 102.

**PSYC 301L - Sensation and Perception Lab (COM) Credits: 1**
This course provides laboratory experience and demonstration in evaluating sensory function and activity as well as perceptual demonstrations. Prerequisites: PSYC 376. Corequisites: PSYC 301.

**PSYC 305 - Learning and Conditioning Credits: 3**
This course covers traditional conditioning experimentation and phenomena, primarily as revealed through animal research. Principles of reinforcement and factors which influence the conditioning process are discussed in detail. Prerequisites: PSYC 101.

**PSYC 324 - Psychology of Aging Credits: 3**
Focuses on the theories, research and practice concepts relevant to psychological factors in the aging process. Topics covered include cognition, personality, and death and dying. Prerequisites: PSYC 101 or PSYC 102.

**PSYC 327 - Child Psychology Credits: 3**
This course covers the physical, social, emotional and intellectual aspect of child development. Prerequisites: PSYC 101.

**PSYC 331 - Industrial and Organizational Psychology (COM) Credits: 3**
This course covers the application of psychological principles to such problems as employee selection, supervision, job satisfaction, and work efficiency. Prerequisites: PSYC 101 or PSYC 102.

**PSYC 357 - Psychological Therapies Credits: 3**
Traditional and contemporary methods of psychotherapy. Interviewing techniques and the professional assistant's role. Prerequisites: PSYC 101.

**PSYC 358 - Behavior Modification Credits: 3**
Principles of learning applied to human behavior modification. Prerequisites: PSYC 101.

**PSYC 364 - Cross Cultural Psychology Credits: 3**
This course provides an overview of cross-cultural psychology which is the comparative study of the effects of culture and diversity on human psychology. Students learn about ways that psychologists may engage in more culturally sensitive and inclusive scholarship, research, and practice. In doing so, students also increase awareness of self and others. Students are introduced to key theories, research methods, scientific findings, and applications of cross cultural psychology while challenged to engage in critical thinking. Prerequisites: PSYC 101.

**PSYC 367 - Psychological Gender Issues Credits: 3**
This course surveys the current theoretical and research issues in the development of gender and explores the impact of gender on the lives of women and men. Topics include societal and biological influences on psychological development, achievement, motivation, sex roles, stereotyping, socialization, sexuality, and personality. Prerequisites: PSYC 101 or PSYC 102. Cross-Listed: WMST 367.

**PSYC 375-375L - Research Methods in Psychology and Lab Credits: 4**
An introduction to the theory and practice of research methods in psychology with an emphasis on descriptive designs. Topics include logic and philosophy of psychological research, conceptualizing research questions, hypothesis testing, data collection and analysis strategies used by researchers in psychology, and introduction to using statistical software for data analysis. This course provides laboratory experience in application of methods and principles of psychological research and data analysis. Prerequisites: ENGL 101 with a C or better and (MATH 103 or MATH 114 or STAT 281 with a C or better). Corequisites: PSYC 375L-375.

**PSYC 376-376L - Research Methods II and Lab Credits: 4**
This course provides further exploration of the theory and practice of research methods in psychology with an emphasis on experimental designs and inferential statistical procedures. Laboratory includes performance of experiments, data analysis, and preparation of research reports. Prerequisites: PSYC 375-375L. Corequisites: PSYC 376L-376.

**PSYC 389 - Pseudoscience and Psychology Credits: 3**
Pseudoscience and Psychology will identify the characteristics of conventional sciences versus what is called pseudoscience, and critically examine disputed areas in psychology and human behavior. Special emphasis is placed on how to critically evaluate anecdotes and published reports of anomalous human behavior, beliefs, and experiences. Prerequisites: PSYC 101.

**PSYC 390 - Seminar (COM) Credits: 1**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division graduate levels. Enrollments in generally limited to fewer than 20 students.

**PSYC 406 - Cognitive Psychology (COM) Credits: 3**
This course is a survey of recent research and theory in cognitive process concerning the representation, storage, retrieval and interactions of units of thought. It considers adaptability, intelligence and knowledge from an experimental point of view. Prerequisites: PSYC 101 or PSYC 102.

**PSYC 409 - History and Systems of Psychology (COM) Credits: 3**
This course is a survey of the origin and development of psychology. Special attention is given to the systems of thought that have emerged since the founding of psychology as an empirical science. Prerequisites: PSYC 275 or PSYC 373 or PSYC 375.

**PSYC 411 - Physiological Psychology (COM) Credits: 3**
Role of physiological mechanisms in behavior. Nervous, biochemical and muscular systems that control or modify human and animal adjustment. Prerequisites: PSYC 101 or PSYC 102.

**PSYC 414 - Drugs and Behavior (COM) Credits: 3**
The psychobiological bases of the use/abuse of alcohol, drugs and other substances are covered in this course along with current theory, research approaches and findings. Prerequisites: PSYC 101 or PSYC 102.

**PSYC 417 - Health Psychology (COM) Credits: 3**
This course is an investigation of the psychological aspects of health and of physical disorders and disease processes. It will explore psychological interventions targeted at prevention as well as those focusing on the resolution or management of disorders. Prerequisites: PSYC 101 or PSYC 102.

**PSYC 427 - Child Psychopathology Credits: 3**
Child Psychopathology is an introduction to the study of abnormal child psychology viewed from the perspective of psychological science. The course focuses on developing familiarity with specialized topics within the field of child psychopathology. Students will learn to distinguish among categories of mental disorders of childhood according to the DSM-IV-R and will gain knowledge of typical signs, symptoms and associated features of these disorders. Epidemiological findings, contemporary hypothesis regarding etiology and psychological and biological treatment interventions and prevention relevant to each disorder will be examined. The course emphasizes the scientific basis of child psychopathology and examines the research methods used to test hypotheses regarding etiology and treatment/prevention outcomes. Prerequisites: PSYC 101.

**PSYC 440-540 - Forensic Psychology Credits: 3**
Forensic Psychology is the application of the science and profession of psychology to questions and issues relating to law and the legal system. This course is a state-of-the-art survey of central topics at the interface of psychology, and the law. The field of forensic psychology encompasses contributions made in a number of different areas – research, clinical practice, public policy, and teaching/training – from a variety of orientations within the field of psychology, such as developmental, social, cognitive, industrial-organizational and clinical. Prerequisites: PSYC 101 or PSYC 102.

**PSYC 441 - Social Psychology (COM) Credits: 3**
This course covers basic principles of social psychology including concepts and methods utilized in analyzing individual and group interactions. Prerequisites: PSYC 101.

**PSYC 443 - Social Psychology of Prejudice (COM) Credits: 3**
Prejudice is an advanced examination of the causes and consequences of prejudice passed upon group characteristics of race and ethnicity; sexual orientation, and physical appearance. Classic and modern theories of prejudice are presented. Students present their ideas on how prejudice toward stigmatized groups can be addressed.

**PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3**
This course is a comprehensive survey of abnormal personality and behavior. It includes an examination of the origins, symptoms and treatment of psychological disorders. Prerequisites: PSYC 101.

**PSYC 461 - Theories of Personality (COM) Credits: 3**
Students will learn about the role of philosophy and science and their contributions to the development of personality theory. Students will examine, in depth, the theoretical contributions made in the areas of psychoanalytic, behavioristic, and humanistic personality theories. The students will be able to articulate their own beliefs concerning the development of human personality. Prerequisites: PSYC 101.

**PSYC 477 - Psychology Testing and Measurement (COM) Credits: 3**
Test theory is covered in this course along with principles of construction and analysis of psychological tests. Prerequisites: PSYC 101.

**PSYC 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**PSYC 492 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**PSYC 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**PSYC 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**PSYC 498 - Undergraduate Research/Scholarship (COM) Credits: 1-12**
Includes senior project, and capstone experience. Independent research problems/ projects or scholarship activities. The plan of student is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**PSYC 602 - Advanced I/O Psychology Credits: 3**

**PSYC 625 - Job Analysis and Performance Appraisal Credits: 3**

**PSYC 626 - Training Credits: 3**

**PSYC 627 - Teams in Organizations Credits: 3**

**PSYC 691 - Independent Study (COM) Credits: 1-4**

**PSYC 692 - Topics (COM) Credits: 1**

**PSYC 717 - Applied Research Methods in I/O Psychology Credits: 4**

**PSYC 728 - Leadership and Motivation Credits: 3**

**PSYC 729 - Personnel Selection Credits: 3**

**PSYC 730 - Test and Measurement Credits: 3**

**PSYC 731 - Work Attitudes Theory and Measurement Credits: 3**

**PSYC 735 - Organizational Development Credits: 3**

**PSYC 792 - Topics (COM) Credits: 1-4**

**PSYC 794 - Internship (COM) Credits: 1-3**

**PSYC 798 - Thesis (COM) Credits: 1-6**

## PUBH (Public Health)

**PUBH 440-540 - Health Geography Credits: 3**
The course will explore the history of health geography, its role in public health and other health applications, the use of maps, geospatial methods and GIS within health programs and initiatives, all from the geographic perspective and how place impacts the overall health of communities. Cross-Listed: GEOG 440-540.

**PUBH 702 - Public Health Theory and Practice (COM) Credits: 3**

**PUBH 720 - Public Health Practice (COM) Credits: 3**

**PUBH 721 - Public Health Applied Practice Experience I (COM) Credits: 1**

**PUBH 722 - Public Health Applied Practice Experience II (COM) Credits: 1**

**PUBH 723 - Public Health Applied Practice Experience III (COM) Credits: 1**

**PUBH 729 - Leadership and Project Management in Public Health (COM) Credits: 3**

**PUBH 730 - Public Health Integrative Learning Experience (COM) Credits: 3-6**

**PUBH 733 - Environmental Health Credits: 3**

**PUBH 751 - Public Mental Health Credits: 3**

**PUBH 755 - Program Planning and Evaluation Credits: 3**

**PUBH 761 - Social Epidemiology Credits: 3**

**PUBH 762 - Cultural Perspectives in Public Health Credits: 3**

**PUBH 764 - Applied Dissemination and Implementation Research in Health Credits: 3**

**PUBH 767 - Public Health Toxicology Credits: 3**

**PUBH 791 - Independent Study (COM) Credits: 1-3**

**PUBH 792 - Topics (COM) Credits: 1-3**

## PUBR (Public Relations)

**PUBR 243 - Public Relations Principles (COM) Credits: 3**
An introduction to the theory and practice of public relations, emphasizing its publics, management function, writing skills, communication processes, tools and professional ethics.

**PUBR 345 - Public Relations Writing Credits: 3**
This course introduces strategies and techniques of public relations writing. Students will learn basic skill sets needed for effective public relations writing and how to disseminate that writing in traditional and digital platforms.

**PUBR 411-411L - Media Analytics and Studio Credits: 3**
Students will gain an understanding of industry trends, terminology, planning, and measurement models related to traditional, social and emerging media environments. The studio provides hands-on application of media analytic principles. Corequisites: PUBR 411L-411. Cross-Listed: ADV 411-411L.

**PUBR 442-442L - Integrated Marketing Communication and Campaigns Studio (COM) Credits: 3**
The capstone course of the advertising sequence. Use case study method and develop complete integrated communication plan for client. Make formal advertising campaign presentation. Hands-on application of integrated marketing communication campaigns. Corequisites: PUBR 442L-442. Cross-Listed: ADV 442-442L.

**PUBR 472 - Research and Planning (COM) Credits: 3**
Research is a foundation for development of work within advertising, public relations, and journalism. This course is an applied learning class where students gain experience planning and implementing media and marketing research related to their area of study. Modern methods of qualitative, quantitative, and digital research are explored through hands-on learning. Cross-Listed: ADV 472.

**PUBR 491 - Independent Study (COM) Credits: 1-3**
Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depend upon the requirements of the topic.

**PUBR 492-592 - Topics (COM) Credits: 1-3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

## RANG (Range Science)

**RANG 205 - Introduction to Range Management [SGR #6] Credits: 3**
Basic principles and application of range science including ecosystem structure, function and management. Water and nutrient cycles, energy flow, plant physiology, grazing management and grazing systems will be discussed. Identification and management of important range plants in the Northern Great Plains are included. Range improvements such as seeding, fertilization, brush control and prescribed burning will be introduced. Notes: Course meets SGR #6.

**RANG 210-210L - Range Plant Identification and Lab Credits: 2**
Instruction and practice in the recognition of important native and introduced range plants of North America. Corequisites: RANG 210L-210.

**RANG 215 - Introduction to Integrated Ranch Management Credits: 3**
This course introduces the basic principles of ranching and the food and fiber system. Students will be exposed to the complexities of modern agricultural production systems. Topics include: natural resources as the basis for successful ranching; the family as the major supplier of labor and capital; animal and agronomic production systems; economic and financial forces; risk and opportunity; agricultural policy and law; the decision making process; and stress as the driving force of change. Students will incorporate outside readings into discussions and practice planning exercises held during lab sessions. Cross-Listed: AS 215.

**RANG 321 - Wildland Ecosystems Credits: 3**
Structure, function and multiple-use management of the major wildland ecosystems of North America. Ecological concepts and renewable resource management strategies will be examined.

**RANG 374-374L - Habitat Conservation and Management and Lab Credits: 4**
An overview of major land-use practices and how these practices and conservation programs influence ecosystem services. Students will explore the balance between production and conservation of habitat to achieve specific wildlife conservation and management goals. Management tools such as fire, herbicides, biocontrol agents, mechanical treatment, and livestock grazing will be discussed. Emphasis will be placed on how the management of other resources can be integrated with those of wildlife. Laboratory sessions to complement lecture material from RANG 374. Field trips to area range sites will be included. Corequisites: RANG 374L-374.

**RANG 400 - Judging Teams Credits: 1**
Section 4 – Range Plant ID: Instruction and practice in identification of important range plants of North America. Section 5 – URME Instruction and practice: in general range science knowledge and problem solving. Participation in the national Undergraduate Range Management Exam (URME) contest. Prerequisites: Instructor consent.

**RANG 421-521 - Grassland Fire Ecology Credits: 3**
The course is designed to describe the ecological effects of fire on grassland ecosystem components, from soil and vegetation to wildlife and cattle. It also provides insight into the history of fires, the people who use them and why, the parts of a fire, how fires behave in relation to fuel and weather, and the procedures for safely conducting prescribed burns. Cross-Listed: WL 421-521. Notes: Sections of this course are provided online through the Agriculture Interactive Distance Education Alliance.

**RANG 425-425L/525-525L - Rangeland Assessment and Monitoring Lab Credits: 3**
Principles and practical application of the assessment and monitoring of rangeland plant communities. Course will be offered in a hybrid format. In the online portion of the course, students will learn how to set objectives, determine parameters to measure, select appropriate techniques, and analyze quantitative data. The laboratory portion is a 1-week intensive field session held in late summer, providing substantial field experiences including performing a wide variety of sampling techniques, collection and analysis of assessment and monitoring data, and learning how state and federal agencies assess and monitor rangelands. Students will also work in teams to develop a monitoring plan for a specific property, collect and analyze initial data, and present the plan and results to the land owner. Prerequisites: (NRM 282-282L or STAT 281) and NRM 311. Corequisites: RANG 425L-425/525L-525.

**RANG 491-591 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Meeting depending upon the requirements of the topic.

**RANG 492-592 - Topics (COM) Credits: 1-4**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

**RANG 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**RANG 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**RANG 497 - Cooperative Education (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**RANG 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**RANG 510 - Grassland Monitoring and Assessment Credits: 2**

**RANG 520 - Watershed Management Credits: 3**

**RANG 530 - Ecology of Invasive Species Credits: 3**

**RANG 540 - Grassland Plant Identification Credits: 2**

**RANG 710 - Principles of Forage Quality Credits: 3**

**RANG 750 - Grazing Ecology and Management Credits: 3**

**RANG 791 - Independent Study (COM) Credits: 1-3**

**RANG 792 - Topics (COM) Credits: 1-6**

## READ (Reading)

**READ 041 - Reading for College Success (COM) Credits: 3**
This course provides students with reading strategies necessary for making the transition to collegiate level reading. The course will present students with multiple strategies to promote comprehension skills, develop vocabulary and enhance metacognition to become strategic readers. This course will be required for students with ACT score in Reading at 17 or below (or a comparable COMPASS score).

**READ 201 - Reading for Career Success: Professional Assessments Credits: 1**
This course is designed to help students cultivate effective reading skills to prepare for proficiency and admittance examinations, and strengthen reading skills for comprehending and responding to advanced college texts. Curriculum will emphasize reading strategies, comprehension skills, advanced vocabulary, and managing test anxiety. Students from all disciplines are welcome. Prerequisites: Sophomore standing or higher.

**READ 202 - Reading for Career Success: Discipline Literacy Credits: 1**
This course is designed to enhance students' disciplinary literacy, strengthening their abilities to read, comprehend, and respond to advanced and professional texts. Curriculum will emphasize reading strategies, advanced comprehension skills, inferential and critical thinking, and discipline-based, advanced vocabulary. Students from all disciplines are welcome. Prerequisites: Sophomore standing or higher.

## RECR (Recreation)

**RECR 101 - Parks and Society Credits: 3**
Introduction to park and recreation resource management including fundamentals governing public park and recreation agencies. Includes administrative organization, history, types and benefits of parks.

**RECR 140 - Introduction to Sport, Recreation and Park Management Credits: 3**
This course is designed to introduce students to the vast array of fields within the sport and recreation industry. The course will explore different job opportunities that are available as well as basic knowledge and skill sets needed to be a sport and recreation manager. Notes: May be taught on demand.

**RECR 202-202L - Outdoor Recreation Resource Management and Lab Credits: 3**
Development and management of outdoor recreation areas and resources including planning, administration, and management practices as they relate to parks, forests, land and water resources, wildlands, and private areas. analysis of participation trends, opportunities, and resource supply. Corequisites: RECR 202L-202.

**RECR 260 - Fundamentals of Sport and Recreation Leadership Credits: 3**
Philosophy and interpretations of leadership as it relates to sport and recreational activities.

**RECR 302 - Commercial Recreation and Tourism Credits: 3**
Exploration of the commercial recreation and tourism aspects which have become the world's number one industry. Areas of examination include the history, trends, supply, demand, relationships to tourism, management, development and technical assistance in this rapidly expanding industry.

**RECR 360 - Sport, Recreation and Park Programming Credits: 3**
Development of the various methods, fundamentals, and materials using modern techniques needed for planning, developing, implementing, and evaluating sport, recreation and outdoor programs for diverse populations in representative service areas.

**RECR 362 - Recreation Across the Lifespan Credits: 3**
Exploration of relevant issues affecting the role of recreation and leisure on human development and its impact on healthy fetal development from conception until death. Examination of the diverse, multicultural perspectives on recreation and leisure, its centrality throughout history and influence on how civilizations define themselves.

**RECR 395 - Practicum (COM) Credits: 1-3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**RECR 402-502 - Outdoor Recreation Resources Management Credits: 3**
The course provides students the scope of outdoor recreation resources (U.S. land, water and wildlife) and major activities; knowledge about outdoor recreation management agencies and their mandates; an understanding of outdoor recreation issues, impacts, and visitors' behavior; knowledge about appropriate management tools for addressing impacts; and an understanding of the contribution of planning to effective recreation resource management.

**RECR 410 - Current Issues in Recreation and Sport Credits: 3**
This course includes individual reporting and group discussions on current issues, changing trends, and research topics in recreation and sport management; employment opportunities and procedures for employment. Prerequisites: Senior class standing.

**RECR 411 - Sports Marketing (COM) Credits: 3**
This course is designed to provide students with an overview of the major promotions and marketing issues facing the sport industry. Topics include the history of sport marketing, principles of sport marketing, sport consumer behavior, research tools, corporate sponsorships, and evaluation of sport marketing programs.

**RECR 415-515 - Sport and Recreation Facility Management Credits: 3**
This course provides students with an advanced study of the management of recreation and sport facilities. Including planning and design, operations, fiscal and personnel management, legal considerations, safety and control, maintenance, and equipment.

**RECR 440 - Sport and Recreation Administration Credits: 3**
This course will provide students with a solid foundation in management theory. The course will develop practical knowledge in fundamental management principles and techniques.

**RECR 491 - Independent Study (COM) Credits: 1-9**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**RECR 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**RECR 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**RECR 750 - Foundations of Sport and Recreation Administration Credits: 3**

**RECR 760 - Advanced Sport and Recreation Marketing Credits: 3**

**RECR 762 - Ethics in Sport and Recreation Credits: 3**

## REL (Religion)

**REL 213 - Introduction to Religion [SGR #4] Credits: 3**
An introduction to the academic study of religion, focusing on the variety of methods which can be used to facilitate discussion about religion issues in public and pluralistic setting. Notes: Course meets SGR #4.

**REL 224 - Old Testament [SGR #4] Credits: 3**
Surveys the sources and development of the peoples and literature of the Old Testament. Notes: Course meets SGR #4.

**REL 225 - New Testament (COM) [SGR #4] Credits: 3**
Presents the history, writings, and theological themes of the New Testament. Notes: Course meets SGR #4.

**REL 237 - Religion in American Culture [SGR #3] Credits: 3**
Examines both the diversity of religious expression and tradition found within American culture (from Adventism to Zen) and the impact of American culture upon those traditions. Religious dimensions of selected features of the American enterprise: popular culture; politics; construction of the landscape; war and peace; social conflict; race, ethnicity, and gender. Notes: Course meets SGR #3.

**REL 238 - Native American Religions [SGR #4] Credits: 3**
A survey of Native American religious traditions and their relation to both traditional and contemporary cultures. Focus on ritual, myth and practice in traditional settings, as well as forms of religious resurgence in the 20th century. Cross-Listed: AIS 238. Notes: Course meets SGR #4.

**REL 250 - World Religions (COM) [SGR #4] Credits: 3**
Introduces the major religions of humankind, examining the function and diversity of religious expression in human experience, and the role of these religions in international relations. Notes: Course meets SGR #4.

**REL 301 - Jesus Remembered - Gospels Credits: 3**
The purpose of this course is to intensify critical thinking, evaluation, and synthesis skill sets through in-depth examinations of early gospel literature set within Second-Temple Judaism, Hellenism, and the early Roman imperial era. The course will seek to understand how the different sources within and behind the literary presentations of Jesus reflect their authors' historical, social, religious, and political situations. Students will become acquainted with many of the complex issues historians raise through historical and source-critical methods. Cross-Listed: HIST 301.

**REL 331 - Women and Religion Credits: 3**
The course examines what women have to say about religion and what religions have had to say about women, including a critical examination of traditional theological areas from the perspective of feminist theologians. Areas covered include women in the Bible, church history, and the contemporary church. Cross-Listed: WMST 331.

**REL 353 - Geography of Religion (COM) Credits: 3**
This course examines the diversity of religious practice and belief from a geographical perspective. Each offering of the course will emphasize a different region of the world, with standard areas of study being North America & Europe, Middle East & Africa, South & Central America, and South & East Asia. The course will examine specific religious traditions (Christianity, Islam, Buddhism, etc.) as they occur in a geographical region, the relationship between religion and place, and how religions change and adapt to new locales. The course may be repeated up to four times. Cross-Listed: GEOG 353.

**REL 360 - Moral and Ethical Perspectives on Death and Dying Credits: 3**
Attitudes and issues that focus on death and dying in society, the religious and moral dimensions of these attitudes and issues.

**REL 392 - Topics (COM) Credits: 3**
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually limited with significant one-on-one student-teacher involvement.

**REL 401 - Early Christian Era Credits: 3**
This course surveys important issues in western religious history and identity from first-century Christian origins through the "great medieval synthesis" of the thirteenth century. While Jewish and Islamic developments are examined, emphasis is placed upon the rise, development, and diversity, and consolidation of Christianity. Cross-Listed: HIST 401.

**REL 402 - Reformations and Religious Conflict Credits: 3**
This course surveys important issues in western religious history from "great medieval synthesis" of the thirteenth century through the Reformation and Counterreformation of the sixteenth century. Also examined is the social environment which led to and was shaped by these developments. While both Jewish and Islamic developments are examined, emphasis is placed upon the development of Christian identity. Cross-Listed: HIST 402.

**REL 404 - Classical Mythology (COM) Credits: 3**
The origin and development of classical myths; their importance in classical literature; and their influence in literature, drama, music, psychology, and art. Cross-Listed: HIST 404.

**REL 454 - Environmental Ethics (COM) Credits: 3**
Presents humanity's relationship to the environment, its responsibility to nature, and its obligations to future generations, attending to both theory and applications, including the debate over causes of environmental crisis, the value of endangered species, the wilderness, and natural objects; the seriousness of the growing global population and obligations to feed the poor, the feasibility of sustaining an ecological responsible society. Cross-Listed: PHIL 454.

**REL 470 - Philosophy of Religion (COM) Credits: 3**
Presents critical inquiry concerning the concept of faith and its relation to reason and belief, the nature of religious experience, concepts of the sacred and the divine, and problems of cross-cultural understanding. Cross-Listed: PHIL 470.

**REL 491 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems and Special Projects. Student complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meeting depending upon the requirements of the topic.

**REL 492 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**REL 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

## RESP (Respiratory Care)

**RESP 105 - Respiratory Care Physical Science Credits: 3**
This course will introduce the beginning respiratory care student to gas laws, mechanics of ventilation, pressures and fluid movements, statistics, microbiology, respiratory medications, CPR, and respiratory modalities.

**RESP 110-110L - Introduction to Respiratory Care and Lab Credits: 4, 2**
Introductory course covering core concepts of respiratory care. RESP 110L: Introduces respiratory care students to the profession in the clinical laboratory setting. Students will apply methods and principles from the clinical areas through small group projects and discussion under faculty supervision. Corequisites: RESP 110L-110 and RESP 150.

**RESP 119 - Introduction to the Respiratory Care Profession Credits: 2**
This course will introduce students to the roles and responsibilities of a respiratory therapist and medical terminology used in respiratory care practice.

**RESP 150 - Clinical Experience I Credits: 4**
An introduction to patient care in the clinical setting and the application of basic respiratory therapeutics. Corequisites: RESP 110-110L.

**RESP 180 - Pathophysiology for Respiratory Care I Credits: 2**
An introduction, in the clinical laboratory setting, to the skills necessary to assess patient. Respiratory status, etiology and symptomatology of respiratory disease through linkage of patients and their disease processes observed in the clinical areas, where students discuss and apply the methods and principles. Prerequisites: RESP 110-110L. Corequisites: RESP 210-210L and RESP 250.

**RESP 210-210L - Respiratory Critical Care and Lab Credits: 3, 2**
Concepts of respiratory critical care with an emphasis on mechanical ventilation. Advanced respiratory care procedures in the clinical laboratory setting. Includes mechanical ventilation and critical care of the adult and neonatal patient. Prerequisites: RESP 110-110L. Corequisites: RESP 210L-210.

**RESP 250 - Clinical Experience II Credits: 5**
An application of more advanced procedures of patient care in the clinical setting and introduction to the critical care areas of the hospitals. Prerequisites: RESP 150.

**RESP 280 - Pathophysiology for Respiratory Care II Credits: 3**
Application of cardiopulmonary disease management. This course will incorporate discharge planning, patient education, disease management strategies and methods to reduce hospital readmissions. Prerequisites: RESP 180.

**RESP 291 - independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**RESP 292 - Topics (COM) Credits: 1-4**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

**RESP 310 - Advanced Respiratory Care Credits: 4**
Advanced study of cardiopulmonary physiology in the clinical laboratory setting. Applies methods and principles learned in the clinical areas through projects and discussions under faculty supervision. Prerequisites: RESP 210-210L. Corequisites: RESP 350 and RESP 355.

**RESP 350 - Clinical Experience III Credits: 5**
Advanced application of respiratory care in all areas with emphasis in advanced pulmonary diagnostics and critical care. Prerequisites: RESP 250. Corequisites: RESP 310 and RESP 355.

**RESP 355 - Respiratory Care in Clinical Medicine Credits: 3**
Critical study of all areas of medical specialty with emphasis on pediatrics and neonatology encouraging relevancies to the clinical areas. Methods and principles are applied through small group projects under the supervision of the faculty member. Prerequisites: RESP 210-210L. Corequisites: RESP 310 and RESP 350.

**RESP 360 - Communication Skills for Respiratory Care Credits: 3**
Written and oral communication skills for respiratory care students with an emphasis on providing patients with comprehensive, well-rounded, interprofessional care. Prerequisites: RESP 310.

**RESP 380 - Respiratory Care for Special Populations Credits: 3**
Discussion of teaching techniques for respiratory therapists and providing care to diverse populations across the lifespan. Prerequisites: RESP 310.

**RESP 395 - Practicum (COM) Credits: 2**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses. Prerequisites: RESP 150 and instructor consent.

**RESP 420 - Critical Review of Healthcare Research Credits: 3**
Locating, selecting, and critically reviewing medical literature relevant to the practice of health care with an emphasis on cardiopulmonary. Topics include constructing and researching clinical questions and skills for keeping current with new medical information and application to clinical practice. Prerequisites: RESP 310 and STAT 281.

**RESP 440 - Ethics for Health Professionals Credits: 4**
A study of ethical topics commonly encountered in the hospital and other health care settings. Topics will include interaction with ill persons and family members, ethical and moral considerations of case scenarios, patient care based on age, communication skills, death and dying, stress, ethical principles, medical legalities, and resource allocation. Prerequisites: RESP 310 and RESP 350.

**RESP 450 - Advanced Concepts in Adult and Neonatal/Pediatric Respiratory Care Credits: 3**
The purpose of this course is to provide advanced concepts as related to adult critical care and neo-natal/pediatric care. The goal is to better prepare students to pursue advanced National Board for Respiratory Care Credentialing (NBRC). Prerequisites: RESP 310.

**RESP 460 - Current Issues in Respiratory Care Credits: 4**
Students engage in an in-depth project on current issues, apply principles from clinical areas, critique literature, and write and present a formal paper. Prerequisites: RESP 310 and RESP 350.

**RESP 475 - Clinical Experience IV Credits: 5**
Specialty clinical rotations in all areas of the hospital with advanced application of respiratory care procedures. Prerequisites: RESP 350.

**RESP 489 - Capstone Project Credits: 3**
Integration and application of respiratory care knowledge and skills. Prerequisites: RESP 310 and Department consent.

**RESP 491 - Independent Study (COM) Credits: 1-4**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**RESP 492 - Topics (COM) Credits: 1-4**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

**RESP 495 - Practicum (COM) Credits: 3**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses. Prerequisites: RESP 310.

## RUSS (Russian)

**RUSS 101 - Introductory Russian I (COM) [SGR #4] Credits: 4**
Fundamentals of language, enabling the student to understand, speak, read and write simple Russian. Emphasis on practical usage. Notes: Course meets SGR #4.

**RUSS 102 - Introductory Russian II (COM) [SGR #4] Credits: 4**
Fundamentals of language, enabling the student to understand, speak, read and write simple Russian. Emphasis on practical usage. Prerequisites: RUSS 101. Notes: Course meets SGR #4.

**RUSS 201 - Intermediate Russian I (COM) Credits: 3**
Continuation of first year Russian. More intensive drill of both grammar and conversation. Emphasis on conversation, grammar review, and the short story. Prerequisites: RUSS 102.

**RUSS 202 - Intermediate Russian II (COM) Credits: 3**
Continuation of first year Russian. More intensive drill of both grammar and conversation. Emphasis on conversation, grammar review, and the short story. Prerequisites: RUSS 102.

## SE (Software Engineering)

**SE 305 - Foundations of Software Engineering Credits: 3**
This course covers the basics of software engineering principles including different software development techniques, requirement analysis, project planning, software design and management. The user interface issues, specification and implementation of components, design quality and basic support tools are also covered. Prerequisites: "C" or better in CSC 300.

**SE 306 - Software Project Management and Testing Credits: 3**
This course studies concepts and techniques of software project management and the testing of software. It covers verification, validation and maintenance methodologies for object-oriented, component-based, and web software. Topics include unit testing, integration testing, system testing, acceptance testing, regression testing, test plan, test case generation, coverage analysis, and complexity analysis. The course incorporates the use of software testing tools. Prerequisites: SE 305.

**SE 330 - Human Factors and User Interface Credits: 3**
This course covers the major frameworks, methods, and approaches to designing, engineering, implementing, and testing user interfaces. It also covers human-machine interaction, design requirements, task analysis, and implementation of the user-interface. Prerequisites: SE 305.

**SE 340 - Software Architecture Credits: 3**
The fundamental building blocks and patterns for construction of software systems are examined. The course covers the fundamental elements of software systems in the context of the design process. The conceptual, module interconnection and execution architecture of software are also discussed. The conceptual architecture describes the system in terms of its major design elements and the relationships among them. Prerequisites: CSC 346.

**SE 440 - Embedded Systems Credits: 3**
This course focuses on modern methods, techniques, and tools for specification, design, and implementation of embedded systems. An overview of the platforms, tools, and processes used in developing software for embedded systems. A hands-on approach experimenting with real-time embedded systems programming. Prerequisites: SE 306 and EE 347.

**SE 464 - Senior Design I Credits: 2**
This is a capstone senior design team project. Students will work as part of a team to develop solutions to problems posed by customers. The project may require considerable software development or evolution and maintenance of existing software products. Students will write the specifications and complete the initial design. Oral and written reports are required. Prerequisites: SE 306 and senior standing.

**SE 465 - Senior Design II Credits: 2**
The objective of this course is to produce, test and present the design specified in Senior Design I. Each team will deliver a final working product, formal software development documentation, and give a final presentation on the project. Prerequisites: SE 464.

**SE 491 - Independent Study (COM) Credits: 1-5**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**SE 492-592 - Topics (COM) Credits: 1-5**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

**SE 494 - Internship (COM) Credits: 1-3**
Applied, monitored and supervised, field based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

## SEED (Secondary Education)

**SEED 314 - Supervised Clinical/Field Experience Credits: 1**
Supervised students will observe and practice various teaching strategies in lab setting, middle schools, and high schools. Prerequisites: EDFN 338 or SEED 287 and EDFN 475. Corequisites: EPSY 302 and SEED 450.

**SEED 400 - Curriculum and Instruction in Middle and Secondary Schools Credits: 4**
Planning units and semester plans for use in student teaching. Includes goal-setting and evaluation/measurement methods. Admission to Professional Semester III. Required for Certification. Prerequisites: EDFN 338 or SEED 287 and EDFN 475, EPSY 302, SEED 314 and SEED 450. Corequisites: SEED 410 and SEED 488.

**SEED 410 - Social Foundations, Management and Law Credits: 2**
Focus on management strategies and models as vehicles for maintaining an effective learning environment. Law and foundations relevant to the classroom teacher. Admission to Professional Semester III. Required for Certification. Prerequisites: EDFN 338 or SEED 287 and EDFN 475, EPSY 302, SEED 314 and SEED 450. Corequisites: SEED 400 and SEED 488.

**SEED 413 - 7-12 Science Methods (COM) Credits: 3**
Students develop an understanding of the tools of inquiry of 7-12 sciences; the ability to design, deliver, and evaluate a variety of instructional strategies and processes that incorporate learning resources, materials, technologies, and state and national curriculum standards appropriate to 7-12 science, the ability to assess student learning in 7-12 science; and to apply theses knowledge, skills, and attitudes to real life situations and experiences.

**SEED 415 - 7-12 Social Science Methods (COM) Credits: 3**
Students develop an understanding of the tools of inquiry of 7-12 social science; the ability to design, deliver, and evaluate a variety of instructional strategies and processes that incorporate learning resources, materials, technologies, and state and national curriculum standards appropriate to 7-12 social science; the ability to assess student learning in 7-12 social science; and to apply these knowledge, skills, and attitudes to real life situations and experiences.

**SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2**
This course is designed to provide general teaching methods and strategies for effective middle level and secondary education to prepare professionals for the 21st century who are caring, competent, and confident. It prepares prospective teachers to plan and develop instruction respecting learner differences as well as preparing appropriate methods for assessing student achievement. The nature of this course creates opportunities for prospective teachers to individualize the course content and learning activities to be responsive to the different education majors. The learning projects are built around the integration of technology, media, other instructional aids, and various resources relevant to the uniqueness of each content major. Corequisites: SEED 420L-420.

**SEED 424 - 7-12 Language Arts Methods (COM) Credits: 3**
Students develop an understanding of the tools of inquiry of 7-12 language arts, integrating reading, writing, speaking, and listening; the ability to design, deliver, and evaluate a variety of instructional strategies and processes that incorporate learning resources, materials, technologies, and state and national curriculum standards appropriate to 7-12 language arts; the ability to assess student learning in 7-12 language arts; and to apply theses knowledge, skills, and attitudes to real life situations and experiences. Cross-Listed: ENGL 424.

**SEED 450 - Reading and Content Literacy (COM) Credits: 2**
This course explores methods for teaching middle and high school students to read, write, think, and learn in ways that allow them to master the subject matter and meaningfully apply their understanding. Participants learn to plan lessons that teach content and nurture greater literacy. Pre-, during-, and post-reading strategies and writing strategies are explored, along with assessment methods that give students a continual view of their literacy progress and achievement. Classroom adaptations for culturally and linguistically diverse populations in the content areas are also addressed.

**SEED 456 - Capstone/Action Research Credits: 1**
This course is intended as an extension of the major specific content methods course where students will continue to examine effective instructional practice in relation to their clinical field experiences. With guidance from university faculty, the students will design an inquiry project and gather data to create a research paper and presentation. Corequisites: EDFN 454.

**SEED 488 - 7-12 Student Teaching (COM) Credits: 2-16**
Students preparing for teaching in the secondary school will observe, participate, and teach under the supervision of the regular classroom teacher in an approved elementary school. An additional "Mandatory Fee" applies to this course.

**SEED 491 - Independent Study (COM) Credits: 1-9**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**SEED 492-592 - Topics (COM) Credits: 1-5**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

**SEED 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**SEED 502 - Methods in Career and Technical Education Credits: 1-2**

## SOC (Sociology)

**SOC 100 - Introduction to Sociology (COM) [SGR #3] Credits: 3**
Comprehensive study of society, with analysis of group life, and other forces shaping human behavior. Notes: Course meets SGR #3.

**SOC 150 - Social Problems (COM) [SGR #3] Credits: 3**
A study of present day problems in contemporary societies, such as racism, sexism, ageism, alcoholism, drug addiction, physical and mental health, war and environmental issues – their significance and current policies and action. Notes: Course meets SGR #3.

**SOC 240 - The Sociology of Rural America (COM) [SGR #3] Credits: 3**
Focus on rural society, rural communities, population composition and trends, social processes, social participation in rural organizations and agencies; American agriculture in a global context; and changing relationship between country and city in contemporary society. Notes: Course meets SGR #3.

**SOC 245 - Environment and Society Credits: 3**
This course will use a sociological perspective to explore domestic and global environmental issues. Students will examine how trends in demographics, attitudes, technology, and global politics influence the environment, and in turn influence human populations. Students will gain environmental literacy by examining how society affects the environment and how the environment affects society, from an individual to a global perspective and by completing an applied research project that investigates a local environmental issue.

**SOC 250 - Courtship and Marriage (COM) [SGR #3] Credits: 3**
Courtship and marriage period given special emphasis, as are problems of mate selection, marital adjustments, reproduction, child-parent relations, divorce, and later years of marriage. Notes: Course meets SGR #3.

**SOC 270 - Introduction to Social Work (COM) Credits: 3**
A study of social services to children, family, aged, public welfare clients, mentally ill, and the criminal justice system, also includes history of social work methods. Prerequisites: SOC 100 or SOC 150.

**SOC 271 - Social Work Skills and Methods I Credits: 3**
Basic concepts and methods common to all social service practice; focus on developing interactional skills. Prerequisites: SOC 270.

**SOC 282 - Youth and Community Credits: 3**
This course explores sociological issues, theories, and research on the social worlds provided for and created by youth. The role of the community youth workers in assessing and addressing young people's involvement in the community is discussed; the focus is on the importance of building community relationships, connections, and inter-linkages for the positive development, support, and well-being of children and youth. The implications of young people's involvement for the success of community development efforts are also addressed. Prerequisites: SOC 100 or SOC 150.

**SOC 283 - Working with Diverse Populations Credits: 3**
This course provides an overview of the experience of selected cultural and racial groups in human and social services. It promotes an understanding of group differences and the impact of those differences on the delivery of human services. Students will learn how to apply practical skills and methodologies related to effective human resource work in diverse employment settings and social service delivery to members of diverse population.

**SOC 284 - Investigating the Social World Credits: 3**
This course helps students develop a practical understanding of how sociologists do sociology. It also provides a hands-on foundation for the further exploration of sociological methods and theories. Course goals will be met by focusing on contemporary social issues, engaging students in class exercises, and supervising student projects.

**SOC 286 - Service Learning Credits: 1-3**
Opportunity to gain service learning and/or mentoring experience. Prerequisites: Major or minor, minimum GPA of 2.0 to enroll. Notes: Graded S/U.

**SOC 294 - Internship (COM) Credits: 1-12**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**SOC 307 - Research Methods I (COM) Credits: 3**
The research process; selection and formulation of research problems; concepts, propositions and scientific theories; elementary research design; data collection procedures and computer applications. Course research projects when possible.

**SOC 308 - Research Methods II (COM) Credits: 3**
Method for data manipulation and presentation; discussion of principles for selection of analysis techniques; index and scale construction; tabular presentation and interpretation; and oral and written report development.

**SOC 325 - Domestic and Intimate Violence (COM) Credits: 3**
A seminar focusing on the problems associated with violent behaviors in American households. Special attention will be devoted to the structural, cultural and social-psychological factors contributing to the abuse and battering of family members. In addition, the use of force as a problem solving mechanism will be examined. Cross-Listed: WMST 325.

**SOC 330 - Self and Society (COM) Credits: 3**
A social psychological exploration of the factors linking self and society, with an examination of the social construction of reality. Prerequisites: SOC 100 or SOC 150.

**SOC 350 - Race and Ethnic Relations (COM) Credits: 3**
A survey of contemporary ethnic and racial groups and selected minorities in South Dakota, the United States and other countries; special attention will be given to sociological concepts and theories relevant to intergroup dynamics, social structures, and communication.

**SOC 351 - Criminology (COM) Credits: 3**
Focuses on theories of crime, juvenile delinquency and justice, laws, systems of criminal behavior, victimization, and corrections. Prerequisites: SOC 100 or SOC 150.

**SOC 353 - Sociology of Work Credits: 3**
Focus on human behavior in work environments. Topics include social organization of work; managing human resources; management-labor relations; role of pay and benefits; problems of personnel adjustment; and work related social tensions and conflict. Prerequisites: SOC 100 or SOC 150.

**SOC 354 - Victimology (COM) Credits: 3**
An up-to-date examination of the victim-offender relationship, including: characteristics of those victimized; forms of victimization; the role of the victim in contributing to their own injuries and losses; and, state and federal programs designed to ameliorate physical, emotional and economic suffering.

**SOC 377 - Documentation in Practice Settings Credits: 3**
The focus of this course is on documentation requirements in the delivery of services in various agency settings, particularly as they relate to case notes, progress reports, treatment plans, assessments, research activities, and professional correspondence. This is a writing intensive course. Prerequisites: SOC 270.

**SOC 382 - The Family (COM) Credits: 3**
Focus is on the development and maintenance of the family as a social institution with emphasis on comparative family systems and the contemporary American family from the standpoint of social class, ethnic background and family crises. Prerequisites: SOC 100 or SOC 150.

**SOC 400-500 - Social Policy (COM) Credits: 3**
A review of social welfare legislation; current trends and issues in, and implementation and administration of, social policy in a variety of practice areas. Prerequisites: SOC 100 or SOC 150.

**SOC 402-502 - Social Deviance (COM) Credits: 3**
This course examines the nature of negatively evaluated behaviors and the process by which customs, rules and normative structure of society are constructed. Prerequisites: SOC 100 or SOC 150.

**SOC 403 - Sociological Theory (COM) Credits: 3**
This is an introduction to the classics in social theory, various schools of social thought, and modern developments in the discipline. It also covers the major ideas of the classical and modern theorists, the social environment in which they wrote, and the implications of their contributions. Prerequisites: SOC 100 or SOC 150.

**SOC 416-516 - Drugs and Society Credits: 3**
The course will examine explanations of drug use and the social construction of drug policies. Students will discuss the methods used to study patterns of drug use and theories of drug abuse and take an in-depth look at the histories, pharmacologies, and patterns associated with the most popular drugs. Students will study the social control of drugs, the connections between drugs and crime, and the causes and consequences of modern U.S. international drug policies. Cross-Listed: CJUS 416-516.

**SOC 433-533 - Leadership and Organizations Credits: 3**
Emphasis is on the emergence of leadership patterns, group dynamics, small groups, and leadership in management. Prerequisites: SOC 100 or SOC 150.

**SOC 440-540 - Urban Sociology (COM) Credits: 3**
A study of the urban community, focusing on its development, social structures and institutional patterns. Prerequisites: SOC 100 or SOC 150.

**SOC 453 - Industrial Sociology Credits: 3**
An investigation of industrial societies with attention given to social trends creating industrialization, the development of organizations, the evolution of work-roles, international relations between industrial and non-industrial nations, and the future of industrial societies.

**SOC 455-555 - Juvenile Delinquency (COM) Credits: 3**
A study of the youthful offender and the causes and consequences of delinquent behavior; preventive and rehabilitation programs are also discussed. Prerequisites: SOC 100 or SOC 150.

**SOC 456 - Community Corrections (COM) Credits: 3**
An examination of the history of adult and juvenile treatment and punishment. Emphasis is upon contemporary community based treatment as well as traditional prison-based incarceration. The process of sentencing, particularly the role of the pre-sentence investigation (PSI) is covered. Special attention is devoted to internship and career possibilities in the corrections arena. Prerequisites: SOC 351.

**SOC 460 - Advanced Criminology (COM) Credits: 3**
An extensive examination of major criminological issues including sociological definitions of crime, and developing theories of crime causation. Prerequisites: SOC 351.

**SOC 462-562 - Population Studies (COM) Credits: 3**
A study of human populations with respect to size, distribution, and structure, with emphasis on theories of population growth and decline, population policies, and impacts on the environment. Prerequisites: SOC 100 or SOC 150.

**SOC 483-583 - Sociology of Gender Roles (COM) Credits: 3**
Female and male roles in relation to one another in a changing world are foci of this course. The nature of gender roles, their origin and maintenance, institutional features, and their variations over time and across cultures are examined. Prerequisites: SOC 100 or SOC 150.

**SOC 489 - Capstone (COM) Credits: 3**
This course gives students experience in integrating theory and data analysis. Students will produce an original research project that demonstrates student abilities to conduct a literature review, compose a research question(s) and hypotheses, conduct statistical testing from databases and qualitative coding of relevant transcripts/documents from ICPSR. The area of specialization of the course instructor (i.e., gender, environment, community development, criminology and deviance) will dictate the focus of the course. This course is for majors only. Prerequisites: SOC 307 and SOC 308.

**SOC 490-590 - Seminar (COM) Credits: 1-3**
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division graduate levels. Enrollments in generally limited to fewer than 20 students.

**SOC 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic. Prerequisites: Written permission.

**SOC 492 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**SOC 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Student gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses. Prerequisites: Written permission.

**SOC 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course. Prerequisites: Written permission.

**SOC 497 - Cooperative Education (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course. Prerequisites: Written permission.

**SOC 501 - The Research Process Credits: 3**

**SOC 504 - Sociological Inquiry Credits: 3**

**SOC 594 - Internship (COM) Credits: 1-3**

**SOC 707 - Sociological Practice and Public Policy Credits: 3**

**SOC 709 - Evaluation Research Credits: 3**

**SOC 710 - Research Methods Credits: 3**

**SOC 711 - Qualitative Research Methods Credits: 3**

**SOC 712 - Sociological Theory I Credits: 3**

**SOC 713 - Sociological Theory II Credits: 3**

**SOC 714 - Race, Class, Gender Intersections Credits: 3**

**SOC 721 - Social Stratification Credits: 3**

**SOC 725 - Social Organization Credits: 3**

**SOC 726 - Teaching Sociology Credits: 2**

**SOC 727 - Teaching Sociology Practicum Credits: 1-3**

**SOC 738 - Scholarship of Teaching and Learning Credits: 2**

**SOC 739 - Scholarship of Teaching and Learning Practicum Credits: 1-3**

**SOC 740 - Rural Community Development Credits: 3**

**SOC 762 - Applied Demography Credits: 3**

**SOC 764 - Modern Demographic Theory Credits: 3**

**SOC 766 - World Population Issues Credits: 3**

**SOC 788 - Master's Research Problems/Projects (COM) Credits: 1-3**

**SOC 790 - Seminar (COM) Credits: 1-4**

**SOC 791 - Independent Study (COM) Credits: 1-3**

**SOC 792 - Topics (COM) Credits: 1-6**

**SOC 794 - Internship (COM) Credits: 1-3**

**SOC 798 - Thesis (COM) Credits: 1-7**

**SOC 898D - Dissertation-PhD (COM) Credits: 1-12**

## SPAN (Spanish)

**SPAN 101 - Introductory Spanish I (COM) [SGR #4] Credits: 4**
Introduces the fundamental elements of Spanish sentence structure and vocabulary. Promotes speaking, listening and writing within a cultural context. Class work may be supplemented with required aural/oral practice outside of class. Notes: Course meets SGR #4.

**SPAN 102 - Introductory Spanish II (COM) [SGR #4] Credits: 4**
Introduces the fundamental elements of Spanish sentence structure and vocabulary. Promotes speaking, listening, and writing within a cultural context. Class work may be supplemented with required aural/oral practice outside of class. Prerequisites: SPAN 101. Notes: Course meets SGR #4.

**SPAN 120 - Medical Spanish I (COM) Credits: 3**
Medical Spanish I will introduce students to anatomical vocabulary and medical terminology in Spanish as well as to culturally appropriate communication between health-care providers and patients. The students will systematically learn the elementary grammar structures, providing a linguistic base of knowledge. In addition, the curriculum will involve a community component. The course is intended for students with little or no prior knowledge of Spanish.

**SPAN 201 - Intermediate Spanish I (COM) [SGR #4] Credits: 3**
Students use previously learned elements of fundamental Spanish to improve speaking, reading, writing, and listening skills. Authentic materials promote the understanding of Hispanic culture. Prerequisites: SPAN 102. Notes: Course meets SGR #4.

**SPAN 202 - Intermediate Spanish II (COM) [SGR #4] Credits: 3**
Continuation of 201 with more emphasis on using grammar structures in an interactive way. Further study of the Hispanic world. Students planning to major or minor in Spanish are encouraged to take 212 concurrently. Prerequisites: SPAN 201. Notes: Course meets SGR #4.

**SPAN 211 - Intermediate Oral Practice I (COM) Credits: 2**
Conversational work, oral reports. May be taken concurrently with SPAN 201 or SPAN 202.

**SPAN 212 - Intermediate Oral Practice II Credits: 2**
Conversational work, oral reports. May be taken concurrently with SPAN 202. Prerequisites: SPAN 102.

**SPAN 250 - Intermediate Conversation Credits: 3**
This course develops Spanish oral proficiency and conversational strategies at the intermediate level. Activities focus on small group and pair work, as well as individual interviews and presentations. Prerequisites: SPAN 102.

**SPAN 292 - Topics (COM) Credits: 1-4**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**SPAN 296 - Field Experience (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**SPAN 308 - Spanish for the Health Professions Credits: 3**
The course will build on the student's knowledge of the Spanish language with a specific emphasis on the language a health professional will need when communicating with a patient. Medical terminology, anatomy, personal information and expressions of feelings will be at the core of the course. The course will also address related cultural issues. Prerequisites: SPAN 202.

**SPAN 310 - Conversation and Culture for Proficiency Credits: 3**
This course is required of all Spanish Majors and Minors. It focuses on many of the more difficult basic grammatical points (e.g., ser/estar, preterito/imperfecto and the uses of the subjunctive) as well as more advanced structures. Prerequisites: SPAN 202.

**SPAN 315 - Spanish for Heritage Speakers Credits: 3**
This course addresses the student's ability to speak and write standard Spanish, with an emphasis on the specific needs of heritage students. Class will be conducted almost exclusively in Spanish, and there will be instruction on writing, grammar, common errors due to English interference, and different written tasks to put those skills into practice. There will be an emphasis on cultural identity, especially the cultures of heritage Spanish speakers, and on cultural metacognition. Prerequisites: SPAN 202.

**SPAN 330 - Reading and Writing for Communication (COM) Credits: 3**
Development of reading and writing proficiency through examination of writings from the Spanish-speaking world. Emphasis on vocabulary needed to read and discuss literary and authentic periodistic readings. Introduction to research methods will also be included. Prerequisites: SPAN 310 or SPAN 320.

**SPAN 340 - Phonetics (COM) Credits: 3**
Introduces the intermediate/advanced student of Spanish to the sound system of the language. Emphasis on developing the student's ability to understand and to produce sounds unique to the Spanish language. Prerequisites: SPAN 320 or SPAN 330.

**SPAN 350 - Spanish for Business Communication (COM) Credits: 3**
An introduction to the Spanish language of everyday business dealings and an overview of practical and relevant information necessary for people doing business in Spanish-speaking countries. Prerequisites: SPAN 320 or SPAN 330.

**SPAN 353 - Introduction to Spanish Literature I (COM) Credits: 3**
Introduction to Spanish literature through reading and discussion. Prerequisites: SPAN 202.

**SPAN 355 - Introduction to Latin-American Literature I (COM) Credits: 3**
Introduction to Spanish American literature through readings with discussion in Spanish. Prerequisites: SPAN 202.

**SPAN 386 - Spanish in the Community Credits: 1-4**
Service learning involves the integration of academic learning, relevant service with community partners, purposeful civic engagement and structured reflection for the purpose of enriching the learning experience and increasing student involvement in community service. Notes: Credit will count toward elective credits for major or minor.

**SPAN 392 - Topics (COM) Credits: 1-6**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement. Prerequisites: SPAN 320 or SPAN 330.

**SPAN 396 - Field Experience (COM) Credits: 1-6**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study established by the student, instructor, and field-based supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**SPAN 415 - Extensive Reading in Spanish Credits: 1**
This course will allow students to do extensive reading at their own level and according to individual interests. The course will include writing, conversation and grammar review.

**SPAN 433 - Spanish Civilization and Culture (COM) Credits: 3**
Geography, history, politics, and arts of Spain. Prerequisites: SPAN 320 or SPAN 330.

**SPAN 435 - Latin American Civilization and Culture Credits: 3**
Geography, history, politics, and arts of Latin America. Prerequisites: SPAN 330.

**SPAN 437 - The Moving Image in the Spanish-Speaking World Credits: 3**
Selected film studies topics in Spanish and/or Latin American Cinemas. The course is taught in Spanish and the films are generally viewed in Spanish with English subtitles. May be repeated as topics change.

**SPAN 443 - Hispanic Linguistics (COM) Credits: 3**
An in-depth study of Spanish linguistics; may include advanced phonetics, syntax, aspects of the history of the Spanish language and the varieties of Spanish spoken throughout the world. Prerequisites: SPAN 320 or SPAN 330.

**SPAN 444 - Introduction to Translation Credits: 3**
An introduction to the principles and practice of translating a variety of text types from Spanish to English and from English to Spanish. Prerequisites: SPAN 310, SPAN 330 and another upper division Spanish course.

**SPAN 472 - Early Modern Spain Credits: 3**
Selected literary and cultural studies topics from 16th and 17th century Spain. Topics may include themes, such as Muslims in Spain; movements, such as the Baroque; genres, authors, or artists. May be repeated as topics change.

**SPAN 473 - Colonial Spanish America Credits: 3**
This is a topics course that studies literary and cultural productions that emerged after the first successful transatlantic voyage by Christopher Columbus to the Americas in 1492. Topics include themes such as Blacks, Indigenous peoples, women, Jews, Muslims, Spanish and creole intellectuals in Spanish Latin America, as well as genres, authors, or artists. Prerequisites: SPAN 330.

**SPAN 476 - 19th and 20th Century Spain Credits: 3**
Selected literary and cultural studies topics from 19th and 20th Century Spain. Topics may include themes, such as the Spanish Civil War; movements, such as Modernismo or the Movida; genres, authors, or artists. Prerequisites: SPAN 310 or consent. Notes: May be repeated as topics change.

**SPAN 477 - 19th and 20th Century Latin America Credits: 3**
Selected literary and cultural studies topics from 19th and 20th Century Latin America. Topics may include themes, such as the wars of independence; movements, such as the Boom; genres, authors, or artists. Prerequisites: SPAN 310 or consent. Notes: May be repeated as topics change.

**SPAN 478 - Spanish Transatlantic Studies Credits: 3**
This is a topics course that explores the exchange of ideas and cultural products and practices between the Iberian Peninsula, Latin America, Africa, Asia, and the Caribbean at different historical periods. By looking at these exchanges from the lens of various disciplines, and by understanding the conditions that shaped them, students will critically reflect on traditional notions of national, cultural, and ethnic identities and boundaries. Prerequisites: SPAN 330.

**SPAN 491-591 - Independent Study (COM) Credits: 1-6**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**SPAN 492 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**SPAN 494 - Internship (COM) Credits: 1-9**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**SPAN 496 - Field Experience (COM) Credits: 1-6**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

## SPED (Special Education)

**SPED 405 - Educating Secondary Students with Disabilities Credits: 2**
An introduction to the entire field of education for children with exceptional needs and is required by all middle school and secondary school majors. Students will identify etiology, classification, and educational programming practices for individuals with any identified disabilities. Students will also determine which local, state, and national administrative and legislative provisions support children with these conditions. Computerized IEP forms and other productivity tools will be reviewed.

## STAT (Statistics)

**STAT 101 - Introduction to Data Science Credits: 3**
An introduction to applications of data science, including data modeling and visualization.

**STAT 281 - Introduction to Statistics (COM) [SGR #5] Credits: 3**
A study of descriptive statistics including graphs, measures of central tendency and variability and an introduction to probability theory, sampling and techniques of statistical inference with an emphasis on statistical applications. Prerequisites: MATH 103 or MATH 114 or MATH 115 or MATH 120 or MATH 121 or MATH 123 or MATH 125. Notes: Course meets SGR #5.

**STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3**
Introduction to probability theory, discrete and continuous distributions, sampling distributions and the Central Limit Theorem with general principles for statistical inference and applications of random sampling to hypothesis testing, confidence limits, and regression. Prerequisites: MATH 125.

**STAT 382 - Probability Credits: 3**
A mathematical treatment of topics in probability necessary to build a solid foundation for further study in statistics, including discrete and continuous random variables and their probability distributions, multivariate probability distributions, functions of random variables, sampling distributions, and the central limit theorem. Prerequisites: MATH 125.

**STAT 383 - Geospatial Data Analysis Credits: 3**
Analysis, interpretation, visualization, and applications of geospatial data. Current relevant, commercially available geospatial data platforms are discussed. Applications include precision agriculture and related fields. Prerequisites: STAT 281 or STAT 381 or STAT 382.

**STAT 410-510 - SAS Programming Credits: 3**
Base SAS language and procedures for accessing data, manipulating data, creating data structures, managing data, producing graphs, producing reports, error handling, accessing data using SQL, and advanced programming techniques.

**STAT 414-514 - Basic R Programming Credits: 1**
An introduction to the R programming language. Topics will include the R programming language and environment, preparation and summarization of data, presentation of data, and programming basics.

**STAT 415-515 - R Programming Credits: 3**
The R programming language and environment, preparation and summarization of data, programming basics, data presentation and visualization, app creation, and advanced programming techniques. Prerequisites: CSC 150 or INFO 101.

**STAT 435-535 - Applied Bioinformatics Credits: 3**
This practical course is designed for students with biological background to learn how to analyze and interpret genomics data. Topics include finding online genomics resources, BLAST searches, manipulating/editing and aligning DNA sequences, analyzing and interpreting DNA microarray data, and other current techniques of bioinformatics analysis.

**STAT 441-541 - Statistical Methods II Credits: 3**
Analysis of variance, various types of regression, and other statistical techniques and distributions. Prerequisites: STAT 281 or STAT 381.

**STAT 442 - Exploratory and Cloud-Based Data Analysis Credits: 3**
Introduction to the complete exploratory data analysis process, including both local and cloud-based data collection, preparation, and analysis, interpretation of analysis, and communication of interpretation. Data sets used will be related to the majors, disciplines, or professions of class participants. Prerequisites: STAT 281 or STAT 381 or STAT 482.

**STAT 445-545 - Nonparametric Statistics (COM) Credits: 3**
Covers many standard nonparametric methods of analysis. Methods will be compared with one another and with parametric methods where applicable. Attention will be given to: (1) analogies with regression and ANOVA; (2) emphasis on construction of tests tailored to specific problems; and (3) logistic analysis. Prerequisites: STAT 281 or STAT 381 or STAT 382.

**STAT 451-551 - Predictive Analytics I Credits: 3**
Introduction to Predictive Analytics. This course will examine the fundamental methodologies of predictive modeling used in financial and predictive modeling such as credit scoring. Topics covered will include logistic regression, tree algorithms, customer segmentation, cluster analysis, model evaluation, and credit scoring. Prerequisites: STAT 482 or STAT 686 and STAT 415-515 or STAT 600.

**STAT 453-553 - Applied Bayesian Statistics Credits: 3**
Introduction to the philosophy and practice of Bayesian statistics. Statistical methods from simple regression models through generalized linear multilevel models are studied from a Bayesian perspective. Emphasis is placed on building understanding through computational approaches using examples and simulation exercises. Prerequisites: MATH 125, STAT 482, and STAT 414-514 or STAT 415-515.

**STAT 460-560 - Time Series Analysis (COM) Credits: 3**
Statistical methods for analyzing data collected sequentially in time where successive observations are dependent. Includes smoothing techniques, decomposition, trends and seasonal variation, forecasting methods, models for time series: stationarity, autocorrelation, linear filters, ARMA processes, non-stationary processes, model building, forecast errors and confidence intervals. Prerequisites: STAT 460: STAT 441 or STAT 482; STAT 560: STAT 482 or STAT 441-541 or STAT 686.

**STAT 482 - Mathematical Statistics Credits: 3**
Fundamental concepts and applications of mathematical statistics, including estimation, properties of point estimators, methods of estimation, hypothesis testing, linear models, analysis of categorical data, and ANOVA. Prerequisites: STAT 382.

**STAT 491-591 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**STAT 492-592 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**STAT 600 - Statistical Programming Credits: 3**

**STAT 601 - Modern Applied Statistics I Credits: 3**

**STAT 602 - Modern Applied Statistics II Credits: 3**

**STAT 651 - Predictive Analytics II Credits: 3**

**STAT 654 - Machine Learning and AI for Pattern Recognition and Clustering Credits: 3**

**STAT 661 - Design of Experiments I Credits: 3**

**STAT 684 - Statistical Inference I Credits: 3**

**STAT 685 - Statistical Inference II Credits: 3**

**STAT 686 - Regression Analysis I Credits: 3**

**STAT 687 - Regression Analysis II Credits: 3**

**STAT 691 - Independent Study (COM) Credits: 1-3**

**STAT 715 - Multivariate Analysis I Credits: 3**

**STAT 716 - Asymptotic Statistics Credits: 3**

**STAT 721 - Statistical Computing and Stimulation Credits: 3**

**STAT 731 - Survival Analysis Credits: 3**

**STAT 736 - Bioinformatics Credits: 3**

**STAT 742 - Spatial Statistics Credits: 3**

**STAT 752 - Advanced Data Science Credits: 3**

**STAT 760 - Quality Control Credits: 3**

**STAT 762 - Advanced Experimental Design Credits: 3**

**STAT 788 - Master's Research Problems/Projects (COM) Credits: 1-2**

**STAT 791 - Independent Study (COM) Credits: 1-3**

**STAT 792 - Topics (COM) Credits: 1-3**

**STAT 794 - Internship (COM) Credits: 1-3**

**STAT 798 - Thesis (COM) Credits: 1-7**

## THEA (Theatre)

**THEA 100 - Introduction to Theatre (COM) [SGR #4] Credits: 3**
Introductory course designed to enhance the student's enjoyment and understanding of the theatrical experience. Play readings, films, and demonstrations acquaint the students with the history and techniques of the theatrical art. Notes: Course meets SGR #4.

**THEA 119 - First Year Seminar Credits: 2**
First-year seminar course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society. Cross-Listed: MUS 119.

**THEA 131 - Introduction to Acting (COM) [SGR #4] Credits: 3**
Designed for the non-major interested in exploring acting as a means of improving communication skills and self-expression. Includes specific process for role development, text analysis, and opportunities to practice the craft and art of acting. Notes: Course meets SGR #4.

**THEA 135 - Theatre Activities - Acting Credits: 1**
Credit earned by active participation in acting roles. May be repeated for a total of 8 credits. Prerequisites: Consent.

**THEA 145 - Theatre Activities - Technical Credits: 1**
Credit earned by backstage and crew work. May be repeated for a total of 8 credits. Prerequisites: Consent.

**THEA 191 - Independent Study (COM) Credits: 1**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic. Prerequisites: Instructor and department chair consent.

**THEA 240 - Stage Costuming (COM) Credits: 3**
Introduction to the equipment, materials, and techniques of theatrical costuming. Includes practical projects in the use of stitching techniques, pattern making, fabric modification, and costume crafts.

**THEA 241-241L - Stagecraft and Lab (COM) Credits: 3**
Theory and practical experience in theatre production. Lab work on two major theatre productions. Lab accompanies THEA 241. Corequisites: THEA 241L-241.

**THEA 243 - Make-Up (COM) Credits: 3**
Principles of theatrical makeup techniques, including character analysis and practical application.

**THEA 250 - Play Analysis (COM) Credits: 3**
Study and application of principles of playscript analysis and production conceptualization.

**THEA 336 - Theatre Activities - Acting Credits: 1**
Credit earned by active participation in acting roles. May be repeated for a total of 8 credits.

**THEA 346 - Theatre Activities - Technical Credits: 1**
Credit earned by backstage and crew work. May be repeated for a total of 8 credits.

**THEA 351 - Directing (COM) Credits: 3**
Introduction to the techniques and concerns of the stage director, including composition, movement, and tempo-rhythm. Script analysis and scene presentation form the core of the course.

**THEA 355 - Children's Theatre (COM) Credits: 3**
Children's theatre is an art form. Students become proficient in organization, design, and presentation of a children's theatre program.

**THEA 361 - Literature and History of the Theatre I (COM) Credits: 3**
Literature and History of the Theatre I is a comprehensive study of the patterns of development in theatre arts, and consideration of the social, political, and economic conditions in which theatre has functioned. Lectures and class discussions will concentrate on literature and history from primitive man through the Realistic period.

**THEA 364 - Literature and History of the Theatre II (COM) Credits: 3**
Literature and History of the Theatre II is a comprehensive study of the patterns of development in theatre arts, and consideration of the social, political, and economic conditions in which theatre has functioned. Lectures and class discussions will concentrate on literature and history from the Realistic period through Modern periods.

**THEA 375 - Theatre Arts Management Credits: 3**
Emphasis on theory and practice of Arts Management as an important feature of the Theatre Arts discipline. Students will become proficient in the organization, promotion, budgeting, and operation of a performing arts program.

**THEA 435 - History of American Musical Theater (COM) Credits: 3**
History and development of American musical theatre from 1866 to the present.

**THEA 441 - Scene Design (COM) Credits: 3**
Principles and practices of scenic design, including the scenic image, movement patterns, color, form, and rendering techniques.

**THEA 443 - Costume Design (COM) Credits: 3**
Principles and practices of costume design, including the fundamentals of play analysis as applied to character statement, historical research, and rendering technique.

**THEA 445-445L - Lighting and Lab (COM) Credits: 3**
Basic principles and practices of lighting design, including basic electricity, script analysis, color, and directionality. Lab accompanies THEA 445. Corequisites: THEA 445L-445.

**THEA 452 - Stage Management (COM) Credits: 3**
Study of the principles and systems of stage management, with particular emphasis placed upon developing effective organizational tools and communication techniques. Practical application of stage management skills in University Theatre productions.

**THEA 455 - Advanced Acting (COM) Credits: 3**
Textual analysis, movement and acting styles for the theatre.

**THEA 470 - Portfolio and Resume Building Credits: 3**
Principles and practices of portfolio and resume building for acting and technical theatre.

**THEA 480 - Summer Theatre (COM) Credits: 1-5**
Credit earned by participation with Prairie Repertory Theatre Company. May be repeated to a total of 10 credits, but only 5 may be applied to a minor. Prerequisites: Consent.

**THEA 491 - Independent Study (COM) Credits: 1-6**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic. Prerequisites: Instructor and department chair consent.

**THEA 492 - Topics (COM) Credits: 1-5**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**THEA 494 - Internship (COM) Credits: 1-16**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience. They follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience. Prerequisites: Instructor consent.

**THEA 791 - Independent Study (COM) Credits: 1-3**

## VET (Veterinary Science)

**VET 120 - Introduction to Veterinary Medicine Credits: 1**
Information will be provided concerning various aspects of veterinary medicine including: pre-veterinary education requirements, veterinary colleges, professional opportunities in veterinary medicine, and allied fields associated with veterinary medicine, governmental regulations, animal welfare, future trends, and other topics. Corequisites: AS 119 or instructor's permission.

**VET 183 - Veterinary Medical Terminology Credits: 1**
This course is a study of the technical language used in Veterinary Medicine and Animal Agriculture with a focus on learning the major components (prefixes, suffixes and combining root terms) of veterinary medical terms and how to put the components together to form useful medical terms. Species-specific terminology, along with organ system-specific terminology, is also presented. Students will be expected to learn and understand the definitions of the veterinary medical terms, and to write and interpret paragraphs containing veterinary medical terms.

**VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4**
This course will familiarize students with the anatomical structures and physiological functions of the organ systems of domestic animals. Similarities in the structure and function of organ systems of various domestic animals will be emphasized. Prerequisites: CHEM 108 or CHEM 120 or CHEM 326. Corequisites: VET 223L-223.

**VET 403 - Animal Diseases and Their Control Credits: 3**
This course will discuss the various factors that contribute to the development of animal disease and how these factors can be manipulated to prevent or control disease. Emphasis will be placed on understanding disease control concepts and how production and management techniques influence the expression of disease in domestic animals and wildlife. Prerequisites: Sophomore standing or higher.

**VET 424-524 - Medical and Veterinary Virology Credits: 3**
Basic course discussing the characterization, structure, and replication of viruses and the pathogenesis of viral disease in man and animals. Prerequisites: AS 332 or BIOL 204. Cross-Listed: MICR 424-524.

**VET 476-576 - Advanced Mammalian Physiology Credits: 4**
An advanced study of the physiological mechanisms utilized by mammals to regulate body functions with the nervous and endocrine systems, to acquire and use chemical energy from their environment, and to integrate the functions of the organs' systems to maintain the health of the animal. Emphasis is placed on applying physiological concepts and principles to solve problems. Previous courses in anatomy, physiology, and biochemistry are recommended. Prerequisites: BIOL 221 or VET 223 or instructor written consent. Cross-Listed: BIOL 476-576.

**VET 491-591 - Independent Study (COM) Credits: 1-3**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meeting depending upon the requirements of the topic.

**VET 492-592 - Topics (COM) Credits: 1-3**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

**VET 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses.

**VET 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**VET 497 - Cooperative Education (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case in an internship or practicum course.

**VET 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4**
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**VET 600 - Jackrabbit Orientation and Leadership Experience I (JOALE I) Credits: 2**

**VET 601 - Microscopic Anatomy I Credits: 2**

**VET 602 - Integrated Biochemistry and Physiology Credits: 7**

**VET 603 - Anatomy I Credits: 4**

**VET 604 - Clinical Skills I Credits: 1**

**VET 605 - Professional Development I Credits: 1**

**VET 606 - Critical Scientific Reading Credits: 1**

**VET 607 - Immunology Credits: 2**

**VET 620 - Jackrabbit Orientation and Leadership Experience II (JOALE II) Credits: 2**

**VET 621 - Professional Development II Credits: 2**

**VET 622 - Anatomy II Credits: 3**

**VET 623 - Clinical Skills II Credits: 1**

**VET 624 - Physiology II Credits: 4**

**VET 625 - Basic Pathology Credits: 2**

**VET 626 - Agents of Disease I Credits: 4**

**VET 627 - Preventative Medicine Credits: 4**

**VET 628 - Microscopic Anatomy II Credits: 2**

**VET 629 - Clinical Correlations I Credits: 1**

**VET 630 - Veterinary Genetics and Genomics Credits: 1**

**VET 631 - Non-Traditional Pets Credits: 1**

**VET 640 - Agents of Disease II Credits: 5**

**VET 641 - Pharmacology I Credits: 2**

**VET 642 - Systemic Pathology Credits: 5**

**VET 643 - Clinical Pathology I Credits: 3**

**VET 644 - Clinical Skills III Credits: 2**

**VET 645 - Clinical Epidemiology Credits: 2**

**VET 646 - Public Health Credits: 2**

**VET 647 - Small Animal Medicine I Credits: 2**

**VET 648 - Diagnostic Laboratory Credits: 2**

**VET 649 - Large Animal Medicine I Credits: 2**

**VET 650 - Professional Development III Credits: 1**

**VET 660 - Small Animal Medicine II Credits: 5**

**VET 662 - Large Animal Surgery I Credits: 3**

**VET 663 - Veterinary Imaging I Credits: 4**

**VET 664 - Pharmacology II Credits: 2**

**VET 665 - Clinical Skills IV Credits: 2**

**VET 666 - Clinical Pathology II Credits: 2**

**VET 667 - Avian Core Credits: 2**

**VET 668 - Large Animal Medicine II Credits: 3**

**VET 669 - Dermatology Credits: 2**

**VET 670 - Clinical Correlations II Credits: 1**

**VET 671 - Thrive Through Life Credits: 4**

**VET 788 - Master's Research Problems (COM) Credits: 1-3**

**VET 791 - Independent Study (COM) Credits: 1-4**

**VET 792 - Topics (COM) Credits: 1-3**

**VET 793 - Workshop (COM) Credits: 1-4**

**VET 796 - Field Experience (COM) Credits: 1-3**

## WL (Wildlife & Fisheries Sciences)

**WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3**
An introduction to the basic principles used in the management of wildlife and fish populations, their habitats, and their human users. The course is directed toward the presentation of general concepts that are integral to understanding the discipline.

**WL 291 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**WL 355-355L - Mammalogy and Lab (COM) Credits: 3**
Identification of game, fur bearing, and small mammals; taxonomy of these groups, life histories and habits, preparation of study skins and skeletons; special reference to those occurring in Northern Great Plains area. Laboratory experience that accompanies WL 355. Prerequisites: BIOL 151-151L or BIOL 153-153L. Corequisites: WL 355L-355.

**WL 363-363L - Ornithology and Lab (COM) Credits: 4**
Identification of bird species; life histories, ecology, habits, and special structural and physiological adaptations of various groups. Laboratory experience that accompanies WL 363. Prerequisites: BIOL 151-151L or BIOL 153-153L. Corequisites: WL 363L-363.

**WL 367-367L - Ichthyology and Lab Credits: 3**
Characteristics and relationships of fishes; adaptations, behavior, ecology, evolution, systematics, and zoogeography of fishes; and, identification and life histories of fishes. Prerequisites: BIOL 151-151L or BIOL 153-153L. Corequisites: WL 367L-367.

**WL 411-411L - Principles of Wildlife Management and Lab Credits: 3**
Application of ecological principles of the management of wild birds, mammals, and herps. History and development of wildlife management as a science; characteristics of, and factors affecting wildlife populations; techniques and theories of management; and, wildlife conservation. Prerequisites: NRM 230, (NRM 282-282L or STAT 281), and NRM 311. Corequisites: WL 411L-411.

**WL 412-412L - Principles of Fisheries Management and Lab Credits: 3**
Fisheries management as a science with an emphasis on freshwater fishes and ecosystems. Emphases include biota, habitat, and human management. Prerequisites: NRM 230, (NRM 282-282L or STAT 281), and NRM 311. Corequisites: WL 412L-412.

**WL 415-415L/515-515L - Upland Game Ecology and Management and Lab Credits: 3**
Upland game birds and mammals as components of ecosystems. Effects of farming; industry; social change; technology; and federal, state, and private programs on game and non-game species. Techniques for individual species management. Prerequisites: NRM 230, (NRM 282-282L or STAT 281), and NRM 311. Corequisites: WL 415L-415L/515L-515.

**WL 417-417L/517-517L - Large Mammal Ecology and Management and Lab Credits: 3**
Large mammal life histories and distributions. Relationships of nutrition, reproduction, interspecific competition, and predation to management of large mammal habitat and harvest. Techniques for research and management of large mammals. Prerequisites: NRM 230, (NRM 282-282L or STAT 281), and NRM 311. Corequisites: WL 417L-417/517L-517.

**WL 418-418L/518-518L - Ecology of Aquatic Invertebrates and Lab Credits: 3**
The identification of and ecological relationships associated with aquatic invertebrates; aquatic ecosystems of the north-central states are emphasized. Prerequisites: NRM 230, (NRM 282-282L or STAT 281), and NRM 311. Corequisites: WL 418L-418/518L-518.

**WL 419-419L/519-519L - Waterfowl Ecology and Management and Lab Credits: 3**
Analysis of ecological and socio-economic factors affecting waterfowl habitat and populations. State and federal programs affecting wetland drainage and preservation. Field inspection of waterfowl habitat in the north-central states. Prerequisites: NRM 230, (NRM 282-282L or STAT 281), and NRM 311. Corequisites: WL 419L-419/519L-519.

**WL 420 - Wildlife Law Enforcement Credits: 3**
Evolution of laws relating to fish and wildlife, enforcement of wildlife law, federal versus state jurisdiction, types of violations, tribal jurisdiction and Native American fishing and hunting rights, and other topics. Guest speakers from state, federal, and local law enforcement agencies. The constitutional concepts involving search, seizure, and use of force will be extensively covered. Prerequisites: NRM 230, (NRM 282-282L or STAT 281), and NRM 311. Notes: Fall.

**WL 421-521 - Grassland Fire Ecology Credits: 3**
The course is designed to describe the ecological effects of fire on grassland ecosystem components, from soil and vegetation to wildlife and cattle. It also provides insight into the history of fires, the people who use them and why, the parts of a fire, how fires behave in relation to fuel and weather, and the procedures for safely conducting prescribed burns. Cross-Listed: RANG 421-521.

**WL 425-425L/525-525L - Wildlife Nutrition and Disease and Lab Credits: 3**
Emphasis is placed on nutrient requirements and acquisition, conditions and characteristics of important diseases, and their management implications. Focal areas include the biochemical, physiological, and ecological bases for studying nutrition and disease; nutrition and disease relationships to wildlife and habitat; protein, energy, vitamin, and mineral requirements and their relationships to diseases; and strategies for satisfying nutritional requirements. Prerequisites: NRM 230 and CHEM 108-108L or CHEM 326-326L or Department written consent. Corequisites: WL 425L-425/525L-525.

**WL 427-427L/527-527L - Limnology and Lab Credits: 3**
Physical, chemical, and biological characteristics of lentic freshwater ecosystems. Analysis of and methods for quantifying processes that function in lentic freshwater ecosystems. Prerequisites: NRM 230, (NRM 282-282L or STAT 281), and NRM 311. Corequisites: WL 427L-427/527L-527.

**WL 429-529 - Ecology of Fishes and Habitat Credits: 3**
Study of fish as an organism and the interrelations of fish with other organisms and with their habitat. Prerequisites: NRM 230, (NRM 282-282L or STAT 281), and NRM 311. Corequisites: WL 429L-429/529L-529.

**WL 430 - Human Dimensions in Natural Resource Management Credits: 3**
Interactions among various stakeholders, resource management agencies, and the wildlife and fisheries resources are studied. Topics such as public attitudes and expectations; agency structure, administration, and policy; tangible and intangible values of fish, wildlife, and their habitats; the concept of biophilia as motivation for resource use; public relations; the philosophy and ethics of resource use and management; and, wildlife and fisheries law and its enforcement are included. Prerequisites: NRM 230, (NRM 282-282L or STAT 281), and NRM 311.

**WL 431-431L/531-531L - Advanced Fisheries Management and Lab Credits: 3**
Advanced management and ecology of public and private water bodies through manipulation of habitat, organisms, and human users. The course will address water body design and construction, limnology, hydrology, channel morphology, water quality, biological production, fish management, troubleshooting, and pond and stream opportunities. Prerequisites: NRM 230, NRM 282-282L or STAT 281), NRM 311, and WL 412. Corequisites: WL 431L-431/531L-531.

**WL 434-434L - Herpetology and Lab (COM) Credits: 3**
This course is a study of reptiles and amphibians including their life history, ecology, reproductive habits, physiology, systematics, and world-wide distribution. Prerequisites: BIOL 151-151L or BIOL 153-153L. Notes: Fall.

**WL 491 - Independent Study (COM) Credits: 1-3**
Includes directed study, problems, readings, directed readings, special problems and special projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic.

**WL 492-592 - Topics (COM) Credits: 1-3**
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

**WL 494 - Internship (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**WL 496 - Field Experience (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**WL 497 - Cooperative Education (COM) Credits: 1-12**
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an internship or practicum course.

**WL 498 - Undergraduate Research/Scholarship (COM) Credits: 1-4**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

**WL 592L - Topics Lab (COM) Credits: 0**

**WL 712-712L - Wetland Ecology and Management and Lab Credits: 3**

**WL 713-713L - Animal Population Dynamics and Lab Credits: 3**

**WL 715-715L - Wildlife Research Design and Lab Credits: 3**

**WL 717-717L - Aquatic Trophic Ecology and Lab Credits: 3**

**WL 720-720L - Quantitative Fisheries Science and Lab Credits: 3**

**WL 723-723L - Fisheries Ecology and Management and Lab Credits: 3**

**WL 724 - Advanced Human Dimensions in Natural Resource Management Credits: 3**

**WL 791 - Independent Study (COM) Credits: 1-3**

**WL 792 - Topics (COM) Credits: 1-3**

**WL 798 - Thesis (COM) Credits: 1-7**

**WL 898D - Dissertation-PhD (COM) Credits: 1-12**

## WMST (Women's Studies)

**WMST 247 - Introduction to Women, Gender, and Sexuality Studies (COM) [SGR #3] Credits: 3**
This course provides students with an introduction to the study of women, gender, and sexuality across related liberal arts disciplines, with a focus on key questions, theoretical tools, and issues in the field. Notes: Course meets SGR #3.

**WMST 248 - Women in Literature (COM) [SGR #4] Credits: 3**
Study of literature by and about women. Course materials may range from early times to the present and may also include non-American literature. Cross-Listed: ENGL 248. Notes: Course meets SGR #4.

**WMST 250 - Development of Human Sexuality Credits: 3**
A basic course which explores the biological, behavioral, and cultural aspects of human sexuality. The course focuses on individual sexual development, interpersonal aspects of sexual behavior and social/cultural values and beliefs about sexuality and sex roles throughout the lifespan. Cross-Listed: HDFS 250.

**WMST 253 - Socio-Psychological Aspects of Dress Credits: 3**
Examination of clothing behavior from sociological, psychological and cultural perspectives. Cross-Listed: FSRM 253.

**WMST 260 - Women's Health Issues Credits: 3**
This interdisciplinary course critically examines issues in women's health. Biological, socio-cultural, psychological, historical, and political processes that shape and define women's health and healthcare issues are explored. Cross-Listed: HSC 260.

**WMST 305 - Women and Politics (COM) Credits: 3**
This course explores a variety of perspectives in feminist political thought. Particular emphasis is placed on barriers women face in gaining access to political power in public and private institutions, both in American society and in global contexts. Cross-Listed: POLS 305.

**WMST 325 - Domestic and Intimate Violence (COM) Credits: 3**
A seminar focusing on the problems associated with violent behaviors in American households. Special attention will be devoted to the structural, cultural and social-psychological factors contributing to the abuse and battering of family members. In addition, the use of force as a problem solving mechanism will be examined. Cross-Listed: SOC 325.

**WMST 331 - Women and Religion Credits: 3**
The course examines what women have to say about religion and what religions have had to say about women, including a critical examination of traditional theological areas from the perspective of feminist theologians. Areas covered include women in the Bible, church history, and the contemporary church. Cross-Listed: REL 331.

**WMST 349 - Women in American History (COM) Credits: 3**
This course will investigate the role of women in the history of the United States. It will attempt to discover what impact women had on the course of events. Selected women and their careers will be highlighted. Cross-Listed: AIS 349/HIST 349.

**WMST 361 - Gender and Sexuality Credits: 3**
This course centers on the perspectives of gay, lesbian, bisexual, transgender, queer, and Two-Spirit Indigenous peoples. Topics will focus on historical and contemporary realities that intersect with Indigenous feminisms, western feminism, and mainstream LGBTQ movements. Cross-Listed: AIS 361.

**WMST 362 - Indigenous Feminisms Credits: 3**
The course will examine feminism in indigenous communities around the world through the study of the personal and communal experiences of indigenous women. Topics will include colonial interactions with indigenous peoples and their impact on cultural concepts of gender roles, personhood, and leadership. Readings will draw from American Indian studies, critical pedagogy, education, gender studies, history, and literature. Cross-Listed: AIS 362.

**WMST 367 - Psychological Gender Issues Credits: 3**
This course surveys the current theoretical and research issues in the development of gender and explores the impact of gender on the lives of women and men. Topics include societal and biological influences on psychological development, achievement motivation, sex roles, stereotyping, socialization, sexuality, and personality. Prerequisites: PSYC 101 or PSYC 202. Cross-Listed: PSYC 367.

**WMST 392 - Topics (COM) Credits: 3**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

**WMST 415 - Communication and Gender (COM) Credits: 3**
A study of gender theories as well as gendered communication practices within the contexts of interpersonal and organizational relationships and social and cultural forces. Cross-Listed: CMST 415-515.

**WMST 419-519 - Women in Media Credits: 3**
This course examines contributions of women to the mass media from colonial era to present. It also studies the portrayal of women by the news media and by advertising, and it studies the roles currently played by women in the media and in supporting areas of advertising and public relations. Cross-Listed: MCOM 419-519.

**WMST 483 - Sociology of Gender Roles (COM) Credits: 3**
Female and male roles in relation to one another in a changing world are the focus of this course. The nature of sex roles, their origin, and their variations over time and across cultures are examined. Cross-Listed: SOC 483-583.

**WMST 491 - Independent Study (COM) Credits: 1-4**
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meetings depending upon the requirements of the topic. Prerequisites: WMST 101.

**WMST 492-592 - Topics (COM) Credits: 1-3**
Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

**WMST 494 - Internship (COM) Credits: 1-3**
Applied, monitored, and supervised field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with field experience courses.

**WMST 498 - Undergraduate Research/Scholarship (COM) Credits: 1-3**
Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

# University Organization, Administration, & Faculty


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Control of the educational institutions of the state is vested in the SD Board of Regents. The Faculty consists of the President, the Vice Presidents, the Deans and other administrative officers, teachers and researchers with rank of instructor or above. The faculty is responsible in general for academic standards and procedures and programs, including recommending to the Regents the candidates for degrees. Faculty business is conducted by the Faculty Senate, an elected body through which faculty express concerns for the welfare of the University and the university community, develop and disseminate communications, contribute to formation of general university policy, and perform those duties and functions allocated to or assumed by the faculty.

## South Dakota Board of Regents

The Board of Regents is the constitutional governing board for South Dakota's six state universities, Black Hills State University, Dakota State University, Northern State University, South Dakota School of Mines and Technology, South Dakota State University, and the University of South Dakota, and two special schools; the South Dakota School for the Blind and Visually Impaired and the South Dakota School for the Deaf.

SD Board of Regents
306 East Capitol Ave
Suite 200
Pierre, SD 57501

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## University Leadership

### Senior Team

| | |
|---|---|
| President | Barry Dunn, Ph.D. |
| Provost and Vice President for Academic Affairs | Dennis Hedge, Pharm.D. |
| Vice President for Research and Economic Development | Daniel Scholl, Ph.D. |
| Vice President for Technology and Safety | David Overby, MMgt |
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| Vice President for Student Affairs and Enrollment Management | Michaela L. Willis, Ph.D. |
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| Chief of Staff | Karyn Weber, M.A. |

### President's Council (includes Senior Team)

| | |
|---|---|
| Vice Provost for Undergraduate Education | Donald Marshall, Ph.D. |
| Interim Associate Vice President for Facilities and Services | Barry Mielke, M.S. |
| Associate Vice President for Student Affairs | Douglas Wermedal, Ph.D. |
| Assistant Vice President for International Affairs | Jon Stauff, Ph.D. |
| Chief Diversity Officer | Kas Williams, M.Ed. |
| Chief University Librarian | Kristi Tornquist, Ph.D. |
| Director of Athletics | Justin Sell, M.A. |
| Director of University Marketing and Communications | Mike Lockrem, M.Ed. |
| South Dakota Corn Utilization Council Endowed Dean of Agriculture, Food and Environmental Sciences | John Killefer, Ph.D. |
| Dean of the College of Arts, Humanities and Social Sciences | Lynn Sargeant, Ph.D. |
| Dean of the College of Education and Human Sciences | Paul Barnes, Ph.D. |
| Dean of Jerome J. Lohr College of Engineering | Bruce W. Berdanier, Ph.D. |
| Dean of the College of Natural Sciences | Charlene Wolf-Hall, Ph.D. |
| Dean of the College of Nursing | Mary Anne Krogh, Ph.D. |
| Dean of the College of Pharmacy and Allied Health Professions | Daniel Hansen, Pharm.D. |
| Dean of the Van D. and Barbara B. Fishback Honors College | Rebecca Bott-Knutson, Ph.D. |
| Director of Graduate School | Nicole Lounsbery, Ph.D. |
| SDSU Foundation President and CEO | Steve Erpenbach, B.S. |
| SDSU Alumni Association President and CEO | Andi Fouberg, MASc |

## Deans

### College of Agriculture, Food and Environmental Sciences

John Killefer, Ph.D., Dean
Vikram V. Mistry, Ph.D., Interim Associate Dean
William R. Gibbons, Ph.D., Associate Dean

### College of Arts, Humanities and Social Sciences

Lynn Sargeant, Ph.D., Dean
Jason Zimmerman, Ph.D., Associate Dean

### College of Education and Human Sciences

Paul Barnes, Ph.D., Dean
Matt Vukovich, Ph.D., Associate Dean

### College of Natural Sciences

Charlene Wolf-Hall, Ph.D., Dean
Greg Heiberger, Ph.D., Associate Dean

### College of Nursing

Mary Anne Krogh, Ph.D., Dean
Heidi Mennenga, Ph.D., Interim Associate Dean
Karin Emery, Ph.D., Assistant Dean
Cynthia Elverson, Ph.D., Interim Assistant Dean
Christina Plemmons, Ph.D., Assistant Dean

### College of Pharmacy and Allied Health Professions

Daniel Hansen, Pharm.D., Dean
Teresa Seefeldt, Pharm.D., Ph.D., Associate Dean
James Clem, Pharm.D., Associate Dean

### H. M. Briggs Library

Kristi Tornquist, Ph.D., Dean

### Jerome J. Lohr College of Engineering

Bruce W. Berdanier, Ph.D., Dean
Rajesh G. Kavasseri, Ph.D., Associate Dean

### Student Affairs

Tobias (Toby) Uecker, M.S., Dean

### Van D. and Barbara B. Fishback Honors College

Rebecca Bott-Knutson, Ph.D., Dean

## School Directors & Department Heads (by College)

### College of Agriculture, Food and Environmental Sciences

| | |
|---|---|
| Department of Agricultural and Biosystems Engineering | Van C. Kelley, Ph.D. |
| Department of Agronomy, Horticulture, and Plant Science | David Wright, Ph.D. |
| Department of Animal Science | Joseph Cassady, Ph.D. |
| Department of Dairy and Food Science | Joseph Cassady, Ph.D., Interim |
| Department of Natural Resource Management | Michele Dudash, Ph.D. |
| Department of Veterinary and Biomedical Sciences | Jane Christopher-Hennings, DVM, M.S. |
| Ness School of Management and Economics | Eluned Jones, Ph.D. |

### College of Arts, Humanities and Social Sciences

| | |
|---|---|
| Department of Aerospace Studies | Jason Haufschild, M.S. |
| Department of Architecture | Brian T. Rex, M.S. |
| Department of English and Interdisciplinary Studies | Jason McEntee, Ph.D. |
| Department of Military Science | Jason Kettwig, MBA, M.S. |
| Ness School of Management and Economics | Eluned Jones, Ph.D. |
| School of American and Global Studies | Christi Garst-Santos, Ph.D. |
| School of Communication and Journalism | Joshua Westwick, Ed.D. |
| School of Design | Pat Crawford, Ph.D. |
| School of Performing Arts | Paul D. Reynolds, D.M.A. |
| School of Psychology, Sociology and Rural Studies | Paul Markel, Ph.D. |

### College of Education and Human Sciences

| | |
|---|---|
| School of Education, Counseling and Human Development | Jay Trenhaile, Ed.D. |
| School of Health and Consumer Sciences | Kendra Kattelmann, Ph.D. |

### College of Natural Sciences

| | |
|---|---|
| Department of Biology and Microbiology | Radhey Kaushik, Ph.D. |
| Department of Chemistry and Biochemistry | Douglas Raynie, Ph.D. |
| Department of Geography and Geospatial Sciences | Bob Watrel, Ph.D. |
| Department of Physics | Douglas Raynie, Ph.D. |

### College of Nursing

| | |
|---|---|
| Department of Graduate Nursing | Heidi Mennenga, Ph.D., Interim |
| Department of Undergraduate Nursing | Heidi Mennenga, Ph.D., Interim |

### College of Pharmacy and Allied Health Professions

| | |
|---|---|
| Department of Allied and Population Health | Sharrel Pinto, Ph.D. |
| Department of Pharmacy Practice | James Clem, Pharm.D., Acting |
| Department of Pharmaceutical Sciences | Omathanu Perumal, Ph.D. |

### Jerome J. Lohr College of Engineering

| | |
|---|---|
| Department of Agricultural and Biosystems Engineering | Van C. Kelley, Ph.D. |
| Department of Civil and Environmental Engineering | Nadim I. Wehbe, Ph.D. |
| Department of Electrical Engineering and Computer Science | Siddharth Suryanarayanan, Ph.D. |
| Department of Construction and Operations Management | Suzette Burckhard, Ph.D., Interim |
| Department of Mathematics and Statistics | Kurt Cogswell, Ph.D. |
| Department of Mechanical Engineering | Yucheng Liu, Ph.D. |

## South Dakota State University Foundation

Steve Erpenbach, President and CEO
South Dakota State University Foundation
815 Medary Avenue, Box 525
Brookings, SD 57007
888-747-SDSU or 605-697-7475
E-mail: info@sdstatefoundation.org
www.sdstatefoundation.org

The South Dakota State University Foundation's sole purpose is to provide the University with the maximum amount of private resources. Through these gifts, we strive to impact greatness.

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The Foundation is an independent 501(c)(3) non-profit organization with $288 million in assets, including an endowment of $177 million, as of December 31, 2020. The organization had its largest fundraising year ever in 2020, securing $73.2 million in gifts and commitments. The professional staff of 45 is supported by a 100-member Council of Trustees.

## South Dakota State University Alumni Association

Andi Fouberg, President and CEO
South Dakota State University Alumni Association
815 Medary Ave, Box 515
Brookings, SD 57007-0299
888-735-2257 or 605-697-5198
Email: alumni@statealum.com
www.statealum.com

The SDSU Alumni Association is an independent, not-for-profit organization, non dues association that welcomes all graduates, former students, faculty, staff and friends of South Dakota State, as well as students, to the growing alumni family. We strive to connect these groups to SDSU and each other, through the promotion of the University and by providing valuable benefits, services and resources to members. The SDSU Alumni Association has been proud to serve over 95,000 alumni since 1889. Jackrabbits are a highly diverse and global family who are an influential force in both keeping traditions alive and advancing South Dakota State University.

## University Administration & Faculty Listing

### Administration

**Dunn, Barry,** President, Professor of Animal Science, Graduate Faculty; B.S., South Dakota State University, 1975; M.S., 1977; Ph.D., 2000.

**Greene, Tracy A.**, Vice President and General Counsel; B.S., University of Idaho, 2000; J.D., University of Idaho College of Law, 2003.

**Hedge, Dennis**, Provost and Vice President for Academic Affairs, Professor of Pharmacy Practice, Graduate Faculty; Pharm.D., University of Kansas, 1991.

**Holbeck, Michael**, Vice President for Budget and Finance; B.S., South Dakota State University, 2008; M.S., 2008; Ph.D., 2017.

**Lockrem, Mike**, Director of University Marketing and Communications; B.A., University of Montana, 1997; M.Ed., University of Minnesota 2002.

**Marshall, Donald M.**, Vice Provost for Undergraduate Education, Professor of Animal Science, Graduate Faculty; B.S., University of Missouri, 1979; M.S., Oklahoma State University, 1981; Ph.D., 1984.

**Mielke, Barry A.**, Interim Associate Vice President for Facilities and Services, Director of Energy Services; B.S., South Dakota State University, 2002; M.S., 2018.

**Overby, David**, Vice President for Technology and Safety; B.B.A., University of North Dakota, 1998; MMgt, University of Mary, 2002.

**Scholl, Daniel**, Vice President for Research and Economic Development, Professor, Graduate Faculty; B.S., University of California, 1985; D.V.M., University of California, 1987; M.P.V.M., University of California, 1988; Ph.D., State University of Utrecht (the Netherlands), 1992.

**Sell, Justin**, Director of Athletics; B.S., Bowling Green State University, 1991; M.A., The Ohio State University, 1992.

**Stauff, Jon**, Assistant Vice President for International Affairs; A.B., College of William and Mary, 1986; M.A., State University of New York at Buffalo, 1990; Ph.D., 1995.

**Weber, Karyn L.**, Chief of Staff; B.S., South Dakota State University, 1990; M.A., 1992.

**Wermedal, Douglas**, Associate Vice President for Student Affairs; B.S., South Dakota State University, 1985; M.S.Ed., Eastern Illinois University, 1987; Ph.D., South Dakota State University, 2008.

**Williams, Kas**, Chief Diversity Officer for Diversity, Inclusion, Equity, and Access; B.A., Southeastern Louisiana University, 1996; M.Ed., South Dakota State University, 2019.

**Willis, Michaela**, Vice President for Student Affairs and Enrollment Management; B.A., Doane College, 2000; M.A.M., 2004; Ph.D., University of Nebraska – Lincoln, 2014.

### Deans, Associate Deans, & Assistant Deans

**Barnes, Paul E.**, Dean of the College of Education and Human Sciences, Professor; B.S., University of Nebraska – Lincoln, 1988; M.S., University of Nebraska – Omaha, 1994, Ph.D., University of Nebraska – Lincoln, 2000.

**Berdanier, Bruce W.**, Dean of the Jerome J. Lohr College of Engineering, Professor of Civil Engineering, Graduate Faculty; B.S., Ohio State University, 1980; M.S., Purdue University, 1983; Ph.D., Ohio State University, 1995.

**Bott-Knutson, Rebecca C.**, Dean of the Van D. and Barbara B. Fishback Honors College, Professor in Animal Science, Graduate Faculty; B.S., University of Missouri, 2003; M.S., University of Nebraska, 2005; Ph.D., Colorado State University, 2009.

**Clem, James**, Associate Dean of Student Services for the College of Pharmacy and Allied Health Professions, Professor and Acting Department Head of Pharmacy Practice, Graduate Faculty; B.S., University of Iowa, 1989; Pharm.D., 1991.

**Elverson, Cynthia D.**, Interim Assistant Dean and Associate Professor of Nursing, NACC Coordinator, Graduate Faculty; B.S., University of Missouri, 1979; M.S., University of California, 1986, Ph.D., University of Nebraska, 2007.

**Emery, Karin**, Assistant Dean of Nursing - Brookings and Assistant Professor; B.S., Medical University of South Carolina, 1997; M.S., Virginia Commonwealth University, 2011; Ph.D., 2019.

**Gibbons, William R.**, Associate Dean for Research of the College of Agriculture, Food and Environmental Sciences, Director of the SD Agricultural Experiment Station, Distinguished Professor of Agricultural and Biosystems Engineering, Graduate Faculty; B.S., South Dakota State University, 1980; M.S., 1982; Ph.D., 1987.

**Hansen, Daniel J.**, Dean of the College of Pharmacy and Allied Health Professions, Professor of Pharmacy Practice; B.S., South Dakota State University, 2003; Pharm.D., 2005.

**Heiberger, Greg**, Associate Dean for Academics and Student Success of the College of Natural Sciences, Assistant Professor of Biology and Microbiology; B.S., South Dakota State University, 2004; M.S., 2006; Ph.D., Colorado State University, 2013.

**Kavasseri, Rajesh G.**, Associate Dean for Research of the Jerome J. Lohr College of Engineering, Professor of Electrical Engineering and Computer Science; B.S., Visvesvaraya National Institute of Technology, 1995; M.S., Indian Institute of Science, 1998; Ph.D., Washington State University, 2002.

**Killefer, John**, South Dakota Corn Utilization Council Endowed Dean of Agriculture, Food and Environmental Sciences, Professor of Animal Science, Graduate Faculty; B.A., Hastings College, 1985; Ph.D., Oregon State University, 1990.

**Krogh, Mary Anne**, Dean of the College of Nursing and Professor, Graduate Faculty; B.S., South Dakota State University, 1985; M.S., Saint Mary's University of Minnesota, 1995; Ph.D., South Dakota State University, 2011.

**Mennenga, Heidi A.**, Interim Associate Dean for Academic Programs for the College of Nursing, Associate Professor of Nursing, Graduate Faculty; B.S., South Dakota State University, 2001; M.S., South Dakota State University; 2006; Ph.D., University of Nevada, 2010.

**Mistry, Vikram V.**, Interim Associate Dean for the College of Agriculture, Food and Environmental Sciences, David A. Thompson Endowed Department Head and Professor of Dairy and Food Science, Graduate Faculty; B.S., Gujarat Agricultural University, 1979; M.S., Cornell University, 1982; Ph.D., 1986.

**Plemmons, Christina**, Assistant Dean of Nursing and Clinical Assistant Professor, Rapid City, Graduate Faculty; B.A., Gonzaga University, 1985; B.S., South Dakota State University, 2007; M.S., 2008; Ph.D., 2016.

**Sargeant, Lynn**, Dean of the College of Arts, Humanities and Social Sciences, Professor; B.S., University of Minnesota, 1989; B.A., University of Washington, 1994; M.A., Indiana University, 1996; Ph.D., 2001.

**Seefeldt, Teresa M.**, Associate Dean for Academic Programs, College of Pharmacy and Allied Health Professions, Associate Professor of Pharmaceutical Sciences, Graduate Faculty; B.S., South Dakota State University, 2002; Pharm.D., 2004; Ph.D., 2007.

**Tornquist, Kristi M.**, Dean of the Library, Professor, Graduate Faculty; B.A. University of Minnesota - Morris, 1980; M.L.S., University of Wisconsin, 1982; Ph.D., University of Minnesota, 1992.

**Uecker, Tobias (Toby)**, Dean of Students; B.A., South Dakota State University, 2004; M.S., Miami University, 2010.

**Vukovich, Matthew D.**, Associate Dean for Research of the College of Education and Human Sciences, Professor of Health and Nutritional Sciences, Graduate Faculty; B.S., Iowa State University, 1988; M.A., 1990; PhD., Ball State University, 1993.

## Distinguished Professors

**Clay, David E.**, Distinguished Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., University of Wisconsin, 1976; M.S., University of Idaho, 1984; Ph.D., University of Minnesota, 1988.

**Clay, Sharon A.**, Distinguished Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., University of Wisconsin, 1977; M.S., University of Idaho, 1982; Ph.D., University of Minnesota, 1986.

**Dwivedi, Chandradhar**, Distinguished Professor and Department Head Emeritus of Pharmaceutical Sciences, Graduate Faculty; B.S., Gorakhpur University, 1964; M.S., 1966; Ph.D., Lucknow University, 1972.

**Evenson, Donald P.**, Distinguished Professor Emeritus of Biology and Microbiology, Graduate Faculty; B.A., Augustana College, 1964; Ph.D., University of Colorado, 1968.

**Fennell, Anne**, Distinguished Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., Iowa State University, 1979; M.S., University of Minnesota, 1982; Ph.D., 1985.

**Flake, Lester D.**, Distinguished Professor Emeritus of Wildlife and Fisheries Sciences, Graduate Faculty; B.S., Brigham Young University, 1965; M.S., 1966; Ph.D., Washington State University, 1971.

**Gibbons, William R.**, Associate Dean for Research of the College of Agriculture, Food and Environmental Sciences, Director of the SD Agricultural Experiment Station, Distinguished Professor of Agricultural and Biosystems Engineering, Graduate Faculty; B.S., South Dakota State University, 1980; M.S., 1982; Ph.D., 1987.

**Granholm, Nels H.**, Distinguished Professor Emeritus of Biology, Microbiology and Global Studies, Graduate Faculty; B.A., University of Massachusetts, 1964; Ph.D., Iowa State University, 1968.

**Gritzner, Charles F.**, Distinguished Professor Emeritus of Geography, Graduate Faculty; B.A., Arizona State University, 1958; M.A., Louisiana State University, 1960; Ph.D., 1969.

**Hegge, Margaret J.**, Distinguished Professor Emerita of Nursing, Director of Academic Evaluation and Assessment Emerita, Graduate Faculty; B.A. Gustavus Adolphus College, 1969; M.Ed., South Dakota State University, 1972; Ed.D., University of South Dakota, 1983; M.S., University of Minnesota, 1984.

**Helder, Dennis L.**, Distinguished Professor Emeritus of Electrical Engineering, Graduate Faculty; B.S., South Dakota State University, 1979; B.S., 1980; M.S., 1985; Ph.D., North Dakota State University, 1991.

**Hess, Donna J.**, Distinguished Professor Emerita of Rural Sociology, Graduate Faculty; B.A., Marquette University, 1965; M.A., State University of New York, 1971; Ph.D., Michigan State University, 1974.

**Jenks, Jonathan A.**, Distinguished Professor Emeritus of Wildlife Science, Graduate Faculty; A.A., Unity College, 1982; B.S., 1984; M.S., University of Maine, 1986; Ph.D., Oklahoma State University, 1991.

**Wolf-Hall, Charlene**, Dean of the College of Natural Sciences, Professor of Biology and Microbiology; B.S., South Dakota State University, 1990; M.S., 1992; Ph.D., University of Nebraska - Lincoln, 1995.

**Zimmerman, Jason R.**, Associate Dean of the College of Arts, Humanities and Social Sciences, Professor of Economics, Graduate Faculty; B.A., Wabash College, 1994; M.S., Purdue University, 1996; Ph.D., 1998.

**Johnson, James L.**, Distinguished Professor Emeritus of Communication Studies and Theatre, Graduate Faculty; B.S., Kansas State University, 1960; M.A., University of South Dakota, 1961; Ph.D., University of Kansas, 1973.

**Johnson, W. Carter**, Distinguished Professor Emeritus of Ecology, Graduate Faculty; B.S., Augustana College, 1968; Ph.D., North Dakota State University, 1971.

**Kattelmann, Kendra K.**, Distinguished Professor and Director of the School of Health and Consumer Sciences, Graduate Faculty; B.S., South Dakota State University, 1977; M.S., University of Arkansas, 1984; Ph.D., University of Missouri, 1993.

**Malo, Douglas D.**, Distinguished Professor Emeritus of Soil Science, Graduate Faculty; B.S., Iowa State University, 1971; M.S., North Dakota State University, 1974; Ph.D., 1975.

**Mc Farland, Douglas C.**, Distinguished Professor Emeritus of Animal Science, Graduate Faculty; B.A., Southern Connecticut State College, 1971; M.S., Washington State University, 1975; Ph.D., 1984.

**Muthukumarappan, K.**, Distinguished Professor and Graduate Coordinator of Agricultural and Biosystems Engineering, Graduate Faculty; B.S., University of Madras (India), 1981; B.E., Tamil Nadu Agricultural University (India), 1986; M.E., Asian Institute of Technology, 1988; Ph.D., University of Wisconsin, 1993.

**Nelson, Eric A.**, Distinguished Professor of Veterinary and Biomedical Sciences and Animal Disease Research and Diagnostic Laboratory, Graduate Faculty; B.A., Mt. Marty College, 1979; M.A., University of South Dakota, 1981; Ph.D., South Dakota State University, 1993.

**Ryder, Mary R.**, Distinguished Professor Emerita of English, Graduate Faculty; B.A., Monmouth College, 1972; M.A., Illinois State University, 1981; Ph.D., University of Illinois, 1987.

**Schingoethe, David J.**, Distinguished Professor Emeritus of Dairy Science, Graduate Faculty; B.S., University of Illinois, 1964; M.S., 1965; Ph.D., Michigan State University, 1968.

**Thaler, Robert**, Distinguished Professor of Animal Science and Extension Swine Specialist, Graduate Faculty; B.S., South Dakota State University, 1982; M.S., 1984; Ph.D., Kansas State University, 1988.

**Wahlstrom, Richard C.**, Distinguished Professor Emeritus of Animal Science; B.S., University of Nebraska, 1948; M.S., University of Illinois, 1950; Ph.D., 1952.

**Woodard, Charles L.**, Distinguished Professor Emeritus of English, Graduate Faculty; B.S., Dakota State University, 1964; M.A., University of Nebraska, 1966; Ph.D., University of Oklahoma, 1975.

**Wrage, Leon J.**, Distinguished Professor of Plant Science Emeritus, Extension Specialist; B.S., South Dakota State University, 1961; M.S., 1964.

## Faculty & Advisors

**Aaron, David**, Assistant Professor, Engineering - Office of Research; B.S., South Dakota State University, 1975; M.S., University of Wisconsin, 1981.

**Abraham, Ross P.**, Professor of Mathematics and Statistics, Graduate Faculty; B.S., Augustana College, 1990; M.A., University of Montana, 1993; Ph.D., University of Houston, 1997.

**Abuatiq, Alham**, Assistant Professor of Nursing; B.S., Jordan University, 2004; M.S.N., Jordan University 2006; M.B.A., Coleman University, 2016; Ph.D., University of San Diego, 2013.

**Ackman, John D.**, Professor of Theatre, School of Performing Arts, Graduate Faculty; B.S., South Dakota State University, 1978; M.F.A., University of Montana, 1984.

**Ahmed, Patricia**, Senior Lecturer in Sociology and Rural Studies, School of Psychology, Sociology and Rural Studies, Graduate Faculty; B.A., University of California-Los Angeles, 1998; M.A., 2000; Ph.D., 2005.

**Ahrendsen, Wendy**, Instructor of Mathematics and Statistics; B.A., Wartburg College, 1995; M.S., South Dakota State University, 1999.

**Albert, Nicole**, Instructor of Nursing; B.S.N., University of Nevada, 1999; M.S.N., South Dakota State University, 2018.

**Albert, Valerie A.**, Instructor in Counseling and Human Development, School of Education, Counseling and Human Development; B.S., Northwestern College, 2012; M.S., South Dakota State University, 2014; M.S., 2016.

**Ali, Shaukat,** Associate Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; M.Sc., University of Agriculture, Faisalabad (Pakistan), 1978; M.S., South Dakota State University, 1993; Ph.D., North Dakota State University, 2001.

**Alsaker, William**, Instructor of Mathematics and Statistics; B.S., South Dakota State University, 2008; M.S., South Dakota State University, 2010.

**Álvarez, José J.**, Associate Professor of Spanish, School of American and Global Studies; B.A., Pontificia Universidad Católica del Perú, 2005; M.A., Pennsylvania State University, 2007; Ph.D., 2013.

**An, Wenfeng**, Professor of Pharmaceutical Sciences and Markl Faculty Scholar in Cancer Research, Graduate Faculty; M.B., Peking University Health Science Center (China), 1993; M.P.H., Peking University Health Science Center (China), 1996; Ph.D., University of Michigan Medical School, 2003.

**Anand, Sanjeev**, Professor of Dairy and Food Science, Graduate Faculty; B.S., D.S. College (India), 1978; M.S., National Dairy Research Institute (India), 1981; Ph.D., 1986.

**Anderson, Carla L.**, Student Services Coordinator and Professional Academic Advisor, College of Education and Human Sciences; B.S., South Dakota State University, 2002; M.S., 2007; Ed.D., University of South Dakota, 2013.

**Anderson, Gary A.**, Professor of Agricultural and Biosystems Engineering, Graduate Faculty; B.S., South Dakota State University, 1975; M.S., Iowa State University, 1985; Ph.D., 1987.

**Anderson, Jenn**, Associate Professor of Communication Studies, School of Communication and Journalism, Graduate Faculty; B.A., Truman State University, 2004; M.A., Miami University, 2008; Ph.D. Michigan State University, 2012.

**Anderson, Randi**, Lecturer of English and Professional Advisor; B.S., Black Hills State University, 2007; M.A., South Dakota State University, 2011.

**Anderson, William**, Assistant Professor of Pharmacy Practice; B.S., South Dakota State University, 2014; Pharm.D., 2016.

**Arends, Robin**, APRN Program Director, Clinical Associate Professor of Nursing, Graduate Faculty; B.S., Briar Cliff, 2001; M.S., South Dakota State University, 2008; D.N.P., 2014.

**Arlt, Robert**, Lecturer of Architecture, School of Design; B.S., North Dakota State University, 2010; M.Arch., North Dakota State University, 2011.

**Atteberry-Gustafson, Anna**, Assistant Director of Nursing Student Services; A.S., University of South Dakota, 1994; B.S., South Dakota State University, 1998, 1999; M.S., 2002.

**Baack, Michelle**, Adjunct Assistant Professor of Chemistry and Biochemistry; B.S., South Dakota State University, 1991; M.D., University of South Dakota School of Medicine, 1995.

**Badahdah, Abdallah**, Associate Professor of Sociology and Rural Studies, School of Psychology, Sociology and Rural Studies; B.A., King Saud University; Ph.D., Iowa State University, 1997.

**Badura, Matthew**, Assistant Director, First Year Advising Center, Wintrode Student Success Center; B.A., University of Notre Dame 1996; M.A. Illinois State University, 1998; Ph.D., Temple University 2010.

**Baggett, Marie-Pierre E.**, Professor of French, School of American and Global Studies, Graduate Faculty; B.A., Université de Clermont (France), 1986; M.A., University of California, 1989; Ph.D., 1996.

**Baggett, Paul B.**, Associate Professor of English, Graduate Faculty; B.A., University of California-Irvine, 1987; M.A., California State University- Long Beach, 1993; Ph.D., University of Miami, 1998.

**Bahr, Jr., Alvin M**., Instructor of Mathematics and Statistics; B.A., South Dakota State University, 1996; M.S., 2000.

**Ball, Jennifer N.**, Associate Professor of Pharmacy Practice; Pharm.D., Purdue University, 2012.

**Ball, John J.**, Professor of Agronomy, Horticulture, and Plant Science; B.S., Michigan Technological University, 1976; M.S., Michigan State University, 1979; Ph.D., 1982.

**Bassett, Sharity**, Assistant Professor of American Indian Studies, School of American and Global Studies; B.S., West College, 1998; M.A., Iliff School of Theology, 2009; Ph.D., University at Buffalo, 2018.

**Bassett, Susan D.**, Lecturer of Nursing; B.S., South Dakota State University, 1982; M.S., 1998.

**Basu, Saikat**, Assistant Professor of Mechanical Engineering, Graduate Faculty; B.E., Jadavpur University, 2009; Ph.D., Virginia Tech, 2014.

**Baye, Jordan F.**, Assistant Professor of Pharmacy Practice; B.A., University of St. Thomas, 2001; M.A., Medical College of Wisconsin, 2006; Pharm.D., University of Iowa, 2011.

**Bebensee, Stephanie M.**, Academic Advisor, College of Nursing; B.S., South Dakota State University, 2000; M.S., South Dakota State University, 2008.

**Beck, Dwayne L.**, Research Manager of Dakota Lakes Field Station, Professor, Graduate Faculty; B.S., Northern State University, 1975; Ph.D., South Dakota State University, 1983.

**Behl, Diana M.**, Associate Professor of Studio Art, School of Design; B.F.A., Bowling Green State University, 2001; M.A., University of Iowa, 2004; M.F.A., 2005.

**Berendse, Joseph**, Assistant Professor of Pharmacy Practice; B.S., Friends University, 2010; B.S., South Dakota State University, 2013; Pharm.D., 2015.

**Bergstrom, Jeremiah**, Instructor of Landscape Architecture, School of Design; BLA, Iowa State University, 1996; MLA, Rutgers University, 2017.

**Betz-Hamilton, Axton E.**, Assistant Professor of Consumer Affairs, School of Health and Consumer Sciences; B.S., Purdue University, 2002; M.S., 2007; Ph.D., Iowa State University, 2012.

**Biesecker, Matthew J.**, Associate Professor of Mathematics and Statistics, Graduate Faculty; B.S., California State University at Chico, 1994; M.S., Utah State University, 1996; Ph.D., 2004.

**Big Eagle, Valeriah**, Academic Advisor-Diversity Outreach & Engagement Coordinator, College of Nursing; B.S, South Dakota State University, 2014; M.Ed., 2018.

**Bjornestad, Andrea**, Associate Professor of Counseling and Human Development, School of Education, Counseling and Human Development, Graduate Faculty; B.S., South Dakota State University, 2001; M.A., 2004; Ph.D., University of South Dakota, 2009.

**Blaha, Bradley,** Coordinator of Recruiting and Academic Services for the College of Agriculture, Food and Environmental Sciences; B.S., South Dakota State University, 2008; M.S., 2018.

**Blair, Amanda D.**, Professor of Animal Science, Graduate Faculty; B.S., Purdue University, 2001; Ph.D., Purdue University, 2007.

**Bleakley, Bruce H.**, Professor of Biology and Microbiology, Graduate Faculty; B.S., Michigan State University, 1978; M.S., 1981; Ph.D., University of Florida, 1986.

**Boe, Arvid A.**, Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.A., Pacific Lutheran University, 1972; M.A., University of South Dakota, 1976; Ph.D., South Dakota State University, 1979.

**Bonnemann, Howard H.**, Lecturer and Undergraduate Program Coordinator of Dairy and Food Science; B.S., South Dakota State University, 1982; B.S., 1987; M.S., 1984.

**Bonvallet, Geoffrey A.**, Lecturer in Physics; B.A., College of Wooster, 2000; M.S., University of Wisconsin, 2002; Ph.D., 2005.

**Born, Staci**, Assistant Professor of Counseling and Human Development, School of Education, Counseling and Human Development, Graduate Faculty; B.A., Minnesota State University, 2006; M.S., 2011; Ph.D., 2015.

**Bosch, Caitlyn**, Lecturer of Nursing; B.S.N., University of North Dakota – Grand Forks, 2009; M.S.N., 2016.

**Bowne, Mary,** Professor of Teaching, Learning and Leadership, School of Education, Counseling and Human Development, Graduate Faculty; B.S., South Dakota State University, 1999; M.S., 2001; Ed.D., University of South Dakota, 2006.

**Brandenburger, Thomas**, Associate Professor of Mathematics and Statistics, Graduate Faculty; B.A. South Dakota State University, 1992; M.S., 1995; PhD, 2009.

**Brawand, John E.,** Associate Professor of Music and Director of Orchestra, School of Performing Arts; B.M., University of North Texas, 1978; M.M., 1980; D.M.A., University of Texas, 1985.

**Brennan, Jameson**, Assistant Professor/Research and Extension Specialist-Livestock Grazing, Graduate Faculty; B.S., Colorado State University, 2007; Ph.D., South Dakota State University, 2019.

**Briddick, Hande**, Professor of Counseling and Human Development, School of Education, Counseling and Human Development, Graduate Faculty; B.S., Middle East Technical University (Turkey), 1991; M.S., Kent State University, 1995; Ph.D., Kent State University, 2004.

**Briddick, William C.**, Associate Professor of Counseling and Human Development, School of Education, Counseling and Human Development, Graduate Faculty; B.A., Southern Illinois University, 1987; M.Ed., Vanderbilt University, 1989; Ph.D., Kent State University, 2005.

**Brokmeier, Susanne,** Lecturer of Teaching, Learning and Leadership, School of Education, Counseling and Human Development; B.S., Martin Luther College, 1987; M.Ed., South Dakota State University, 2003.

**Brown, Robin J.,** Assistant Professor of Nursing; B.S., South Dakota State University, 1983; M.S., 1999; Ph.D., 2016.

**Browning, Larry M.**, Professor of Physics, Graduate Faculty; B.S., Syracuse University, 1975; M.S., Purdue University, 1980; Ph.D., 1984.

**Brözel, Volker**, Professor of Biology and Microbiology, Graduate Faculty; B.Sc., University of Stellenbosch (South Africa), 1986; B.Sc. (Hons) University of Pretoria (South Africa) 1988, M.S., 1990; Ph.D., 1993.

**Burckhard, Suzette R.**, Professor and Assistant Department Head of Civil and Environmental Engineering, Interim Department Head of Construction & Operations Management; Graduate Faculty; B.S., South Dakota State University, 1986; M.S., Kansas State University, 1992; M.S., 1993; Ph.D., 1997.

**Burdick, Karin B.**, Student Success Advisor, TRIO Department; B.S., South Dakota State University,1999; M.Ed., 2017.

**Burger, Donald,** Associate Professor of Landscape Architecture/Program Coordinator, School of Design; B.L.A., Utah State University, 2006; MASLA, University of British Columbia, 2008.

**Burgers, Travis**, Adjunct Assistant Professor of Mechanical Engineering; B.S.E., Dordt College, 2003; M.S., Colorado State University, 2005; Ph.D., University of Wisconsin- Madison, 2008.

**Burrows, Rhoda L.**, Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; A.A., Commercial College, 1979; B.A., Montana State University, 1983; M.S., University of Minnesota, 1987; Ph.D., 2001.

**Buttolph, Anne M.,** Lecturer of Nursing; B.S., University of Illinois, 1989; B.S., Saint Francis College of Nursing, 1992; M.S., University of South Alabama, 2007.

**Butzin, Nicholas**, Assistant Professor of Biology and Microbiology; B.S., University of Wisconsin-Platteville, 2002; M.S., University of Wisconsin-Milwaukee, 2005; Ph.D., 2009.

**Byamukama, Emmanuel**, Associate Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., Makerere University, 1999; M.S., 2001; Ph.D., Iowa State University, 2008.

**Bylander, Nathan**, Professional Academic Advisor, College of Pharmacy and Allied Health Professions; B.S., South Dakota State University, 2009; M.Ed., 2015.

**Caffe-Treml, Melanie**, Associate Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., University of Sciences and Technology (France), 2002; M.S., National Institute of Agronomy of Toulouse (France), 2004; Ph.D., South Dakota State University, 2010.

**Callies, Dannica**, Clinical Assistant Professor of Nursing; B.A.N, Augustana University, 2009; D.N.P., South Dakota State University, 2013.

**Carlile, Andrea,** Lecturer of Communication Studies, School of Communication and Journalism, Director of Forensics; B.A., Gustavus Adolphus College, 2007; M.S., South Dakota State University, 2009.

**Carlson, Nicole,** Instructor of Nursing; B.S.N. University of North Dakota, 2009; M.S.N., University of New Mexico, 2016.

**Carotta, Christin L.**, Assistant Professor in Counseling and Human Development, School of Education, Counseling and Human Development, Graduate Faculty; B.BA., Loyola University, 2003; M.ED., University of Notre Dame, 2005; Ph.D., The Ohio State University, 2014.

**Case, Carly**, Athletic Academic Advisor, Intercollegiate Athletics; B.S., Northern Kentucky University, 2010; M.S., Northern Kentucky University, 2014.

**Caspers-Graper, Mary,** Department Head and Professor, H.M. Briggs Library; B.A., Luther College, 1979; M.A., University of Iowa, 1980; M.L.S., University of Arizona, 1985.

**Cassady, Beverly**, Lecturer of Veterinary and Biomedical Sciences; B.S., University of Nebraska-Omaha, 1994; D.V.M., Kansas State University, 1999.

**Cassady, Joseph,** Professor and Department Head of Animal Science, Interim Department Head of Dairy and Food Science, Graduate Faculty; B.S., Iowa State University, 1993; M.S., University of Nebraska-Lincoln, 1995; Ph.D., 1999.

**Cempellin, Leda**, Professor of Studio Art, School of Design, Program Coordinator of Museum Studies Minor, Graduate Faculty; Dottore in Lettere Moderne (Laurea), University of Padua, Italy, 1999; Dottore di Ricerca in Storia dell'Arte (Ph.D.), University of Parma (Italy), 2004.

**Chakravarty, Suvobrata**, Associate Professor of Chemistry and Biochemistry, Graduate Faculty; B.S., Bidhan Chandra Krishi Vishwavidyalaya (India); M.S., Indian Institute of Science (India), 1998; Ph.D., 2003.

**Chandrasekher, Gudiseva**, Associate Professor of Pharmaceutical Sciences, Graduate Faculty; B.S., Andhra University (India), 1977; M.S., 1979; Ph.D., University of Mysore (India), 1983.

**Chang, Jiyul,** Senior Lecturer of Agronomy, Horticulture, and Plant Science; B.S., Yonsein University (Korea), 1988; M.S., South Dakota State University, 1997; Ph.D., 2002.

**Chapman, Zachary**, Instructor of Mechanical Engineering; B.S., South Dakota State University, 2018; M.S., 2019.

**Chase, Christopher**, Professor of Animal Disease Research and Diagnostic Laboratory, Graduate Faculty; D.V.M., Iowa State University, 1980; M.S., University of Wisconsin, 1987; Ph.D., 1990.

**Cheek, Christopher**, Assistant Professor of Natural Resource Management, Graduate Faculty; B.S., Southern Oklahoma State University, 2010, M.S., Texas Tech University, 2010; Ph.D., Purdue University, 2019.

**Chen, Yiqun**, Lecturer of Music, School of Performing Arts; B.M., California State University – Long Beach, 2009; M.A.T., University of Southern California, 2010; D.M.A., University of Iowa, 2017.

**Christensen, Cody**, Associate Professor of Aviation, School of Health and Consumer Sciences, Graduate Faculty; B.S.Ed., South Dakota State University, 2005; M.Ed., 2006; Ed.D., University of South Dakota, 2013.

**Christensen, Joseph**, Instructor of Mathematics and Statistics; B.A., Augustana College, 1980; M.S., South Dakota State University, 2006.

**Christensen, Mary,** Coordinator of Agricultural Leadership, Education, Communication and Science, B.S., South Dakota State University, 2005; M.S., 2007; Ed.D., University of South Dakota, 2015.

**Christopher-Hennings, Jane**, Professor and Department Head of Veterinary and Biomedical Sciences and Animal Disease Research and Diagnostic Laboratory, Graduate Faculty; B.S., University of Wisconsin, 1975; M.S., 1990; D.V.M., University of Minnesota, 1983.

**Ciarcià, Marco**, Assistant Professor of Mechanical Engineering, Graduate Faculty; M.S., Università degli Studi di Palermo, 2001; Ph.D., Rice University, 2008.

**Clapper, Jeffrey A.**, Professor of Animal Science, Graduate Faculty; B.S., Ohio State University, 1982; M.S., 1987; Ph.D., Purdue University, 1992.

**Clark, Jason**, Assistant Professor; B.S., Utah State University, 2011; M.S., 2014; Ph.D., University of Minnesota, 2017.

**Clark, Thomas**, Instructor of Management Sciences, Ness School of Management and Economics; B.G.S., Eastern Connecticut State University, 2006; M.S., 2009

**Coduto, Kathryn D.**, Assistant Professor, School of Communication and Journalism, Graduate Faculty; B.S., Kent State University, 2013; M.A., 2014; Ph.D., The Ohio State University, 2020.

**Cogswell, Kurt D.**, Professor and Department Head of Mathematics and Statistics, Graduate Faculty; B.S., Massachusetts Institute of Technology, 1978; M.S., North Dakota State University, 1991; Ph.D., Northwestern University, 1996.

**Cole-Dai, Jihong**, Professor of Chemistry and Biochemistry, Graduate Faculty; B.S., University of Science and Technology of China, 1982; M.S., University of Maryland, 1984; Ph.D., 1987.

**Conlee, Janice**, Instructor of Nursing; A.S., Presentation College, 1990; B.S., Midland University, 1997; M.S., Creighton University, 2007.

**Contarino, Samantha A.**, TRIO Director, TRIO Department; BSW, Temple University, 2003; MSW, Fordham University, 2004.

**Cooley, Jerry E.**, Instructor of Computer Science; B.S., South Dakota State University, 1973; M.A., 1986.

**Coulter, Alison**, Assistant Professor of Natural Resource Management, Graduate Faculty; B.S., Michigan State University, 2007; M.S., Central Michigan University, 2010; Ph.D., Purdue University, 2015.

**Crawford, Pat**, Professor and Director of the School of Design; B.S., University of Missouri, 1986; M.L.A., Kansas State University, 1989; Ph.D., Arizona State University, 2001.

**Crowe, Don**, Professor of Music, School of Performing Arts; B.M.E., Furman University, 1976; M.M., Florida State University, 1979; D.M.A., University of Arizona, 1994.

**Currier, Danielle**, Instructor of Nursing; B.S.N., South Dakota State University, 2008; M.S.N., Nebraska Methodist College, 2018.

**Cutler, Kay**, Professor of Teaching, Learning and Leadership, School of Education, Counseling and Human Development, Graduate Faculty; B.A., University of Minnesota, 1989; Ph.D., University of Texas, 1995.

**Dailey, Rocky**, Associate Professor of Journalism and Mass Communication, School of Communication and Journalism, Graduate Faculty; B.S., South Dakota State University, 1994; M.A., University of Memphis, 1998; Ed.D., Montana State University, 2012.

**Daly, Russell**, Associate Professor of Veterinary and Biomedical Sciences and Extension Veterinarian; B.S., South Dakota State University, 1988; M.S., 2013; D.V.M, Iowa State University, 1990.

**Daniel, Jeremy S.**, Associate Professor of Pharmacy Practice; Pharm.D., Purdue University, 2012.

**Daniels, Ann Michelle,** Associate Professor of Counseling and Human Development, School of Education, Counseling and Human Development, Graduate Faculty; B.S., University of Arkansas, 1988; M.Ed., 1990; Ph.D., Kansas State University, 1999.

**Davis, Alan**, Professor of Counseling and Human Development, School of Education, Counseling and Human Development, Graduate Faculty; B.A., Western Washington University, 1978; M.R.C., University of Kentucky, 1980; Ph.D., Oregon State University, 1984.

**Davis, David E.**, Professor of Economics, Ness School of Management and Economics, Graduate Faculty; B.S.B.A., University of South Dakota, 1993; M.A., University of Oregon, 1998; Ph.D., 1998.

**Desutter, Thomas M.**, Adjunct Associate Professor of Agronomy, Horticulture, and Plant Science; B.S., South Dakota State University, 1994; M.S., 1998; Ph.D., Kansas State University, 2004.

**Dey, Moul**, Professor of Nutritional Sciences, School of Health and Consumer Sciences, Graduate Faculty; B.S., University of Calcutta, 1994; M.S., 1996; Ph.D., 2002.

**Diddle-Hildebrant, Laura D.,** Professor of Music, School of Performing Arts; B.M., Indiana University, 1989; M.A.T., 1991; Ph.D., University of South Carolina, 2005.

**Diel, Diego G.**, Assistant Professor of Veterinary and Biomedical Sciences and Animal Disease Research and Diagnostic Laboratory, Graduate Faculty; D.V.M. Federal University of Santa Maria (UFSM), Brazil 2004; M.S., 2007; Ph.D., 2010.

**Diersen, Matthew A.**, Professor and SDSU Extension Risk/Business Management Specialist, Ness School of Management and Economics, Graduate Faculty; B.A., University of Minnesota, 1993; M.S., North Dakota State University, 1995; Ph.D., University of Illinois, 1999.

**Diischer, Rebecca**, Lecturer of Mathematics and Statistics; B.S., South Dakota State University, 2004; M.S., University of Iowa, 2007.

**Djira, Gemechis D.,** Associate Professor of Statistics, Graduate Faculty; B.S., Addis Ababa University, 1990; M.S., Addis Ababa University, 1994; M.S., Limburgs Universitair Centrum, 2001; M.S., Limburgs Universitair Centrum, 2002; Ph.D., University of Hannover, 2005.

**Doom, Jeffrey J.**, Associate Professor of Mechanical Engineering, Graduate Faculty; B.A., Southwest Minnesota State University, 2002; M.S., University of Minnesota – Minneapolis, 2006; Ph.D., 2009.

**Droke, Elizabeth,** Associate Professor of Nutritional Sciences, School of Health and Consumer Sciences, Graduate Faculty; B.S., University of Illinois, 1985; M.S., Ohio State University, 1988; Ph.D., North Carolina State University, 1991.

**Dubbelde, Victoria**, Lecturer of Accounting, Ness School of Management and Economics; A.A.S., Nassau Community College, 1998; B.B.A., Baruch College, City University of New York, 2004; M.B.A., University of Phoenix, 2008.

**Dudash, Michele**, Professor and Department Head of Natural Resource Management, Graduate Faculty; B.A., Millersville University, 1977; Ph.D., University of Illinois – Chicago, 1987.

**Duetz, Allen**, Instructor of Agricultural Economics/Agribusiness, B.S. Southwest Minnesota State University, 2007; M.S. South Dakota State University, 2018.

**Dunn, Donna E.**, Professional Academic Advisor and Curriculum Manager, School of Design; B.A., Dakota Wesleyan University, 1991; M.A., University of South Dakota, 2010.

**Durr, Anthony,** Assistant Professor of Teaching, Learning and Leadership, School of Education, Counseling and Human Development, Graduate Faculty; B.A., University of Nebraska-Lincoln, 2000; M.S., The Ohio State University, 2008; Ph.D., 2008.

**Easley, Carrie**, Lecturer of Mathematics; B.S., University of South Dakota, 1998; M.A., 1999; M.A., 2004.

**Ehlert, Krista**, Assistant Professor of Natural Resource Management, Graduate Faculty; B.A., St. Olaf College, 2011; M.S., Montana State University, 2013; Ph.D., 2017.

**Eichhorst, Bruce**, Instructor of Natural Resource Management; B.S., University of Wisconsin, OshKosh, 1982; M.S., 1986; Ph.D., University of North Dakota, 1994.

**Elliott Lisa**, Associate Professor and SDSU Extension Commodity Marketing Specialist, Ness School of Management and Economics, Graduate Faculty; B.S., University of Missouri, 2006; M.S., 2009; Ph.D., 2011.

**Elliott, Matthew**, Associate Professor and SDSU Extension Agribusiness Specialist, Ness School of Management and Economics; B.S., California Polytechnic State University, 2001; M.S., University of Missouri, 2009; Ph.D., 2013.

**Ellis, Andrew R.**, Lecturer of Biology and Microbiology; B.S., South Dakota State University, 2001; M.S., 2006.

**Emery, Mary,** Professor of Sociology, School of Psychology, Sociology and Rural Studies, Graduate Faculty; Ph.D., Rutgers University.

**Enz, Molly K.,** Professor of French and Global Studies, School of American and Global Studies, Graduate Faculty; B.A., Concordia College, 1996; M.A. 2000; Ph.D., University of Wisconsin Madison, 2005.

**Erickson, Kassandra**, Instructor of Medical Laboratory Science; B.S., South Dakota State University, 2012; M.S., University of North Dakota, 2018.

**Escondrillas, Macarena,** Instructor of Spanish, School of American and Global Studies; B.A., University of Murcia, (Spain), 2010; M.A., West Virginia University, 2012.

**Fahmy, Hesham**, Associate Professor of Pharmaceutical Sciences, Graduate Faculty; B.S., University of Alexandria (Egypt), 1987; M.S., 1990; Ph.D., 1993.

**Fan, Rong**, Lecturer of Statistics; B.S., Shanxi Normal University (China), 2001; M.S., Beijing University of Technology, 2004; Ph.D., Southern Illinois University, 2018.

**Fenderson, Brittany**, Instructor of Nursing; B.A.N, Augustana University, 2014; M.S.N., South Dakota State University, 2020.

**Fenster, Charles**, Professor of Biology and Microbiology and Director of Oak Lake Field Station, Graduate Faculty; B.A., Amherst College, 1979; Ph.D., The University of Chicago, 1988.

**Fink, Darci M.**, Assistant Professor of Chemistry and Biochemistry, Graduate Faculty; B.S., South Dakota State University, 2010; B.A., 2010; Ph.D., University of Nebraska Medical Center, 2016.

**Flint, Donna L**, Professor and Assistant Department Head of Mathematics and Statistics, Graduate Faculty; A.A., Eastfield College, 1986; B.A., University of Texas at Arlington, 1992; M.S., 1994; Ph.D., 1999.

**Flynn, Nicole.** Associate Professor of English, Graduate Faculty; B.A., Wellesley College, 1999; M.A., University of Chicago, 2004; Ph.D., Tufts University, 2012.

**Foerster, Becka J.**, Lecturer of Nursing; B.S., South Dakota State University, 2007; M.S., 2011.

**Folsland, Gale**, Assistant Director of Nursing Student Services, Rapid City; B.S., Black Hills State University, 1979; M.B.A, Wichita State University, 1995.

**Forbes-Hurd, Scout**, Assistant Professor of Pharmacy Practice/Continuing Education and Experiential Education Coordinator; Pharm.D., South Dakota State University, 2011.

**Fourney, Robert S.**, Associate Professor of Electrical Engineering, Graduate Faculty; B.S., Virginia Polytechnic Institute and State University, 1985; M.S., University of Maryland, 1989; Ph.D., 2001.

**Freeland, Mark D.**, Assistant Professor of American Indian Studies, School of American and Global Studies; B.A., University of Michigan, 1995; M.Div., Iliff School of Theology, 2007; Ph.D., 2015.

**Frewaldt, Shannon**, Instructor of Studio Arts, School of Design; B.A., Augustana College, 1999; M.F.A., University of Iowa, 2002.

**Froehlich, Kelly**, Extension Small Ruminant Production Specialist and Assistant Professor in Animal Science, Graduate Faculty; B.S., University of Minnesota, 2014; M.S., South Dakota State University, 2016; Ph.D., Lincoln University-New Zealand, 2020.

**Fu, Kaiqun**, Assistant Professor of Computer Science, B.S., Hangzhou Dianzi University, 2012; M.S., Virginia Tech, 2015; Ph.D., 2021.

**Fuller, Billy W.**, Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., Auburn University, 1976; M.Ed., Auburn University, 1978; M.S., Clemson University, 1982; Ph.D., Louisiana State University, 1987.

**Gackstetter, Gary D.**, Professor and Director Professional (DVM) Program Veterinary Medicine and Assistant Department Head Academic Programs, Veterinary and Biomedical Sciences Department, Graduate Faculty; B.S., South Dakota State University, 1975; D.V.M., Iowa State University, 1979; M.P.H., Boston University, 1985; Ph.D., University of Minnesota, 1992.

**Gamradt, Kenneth A.**, Lecturer of Computer Science; B.S., South Dakota State University, 1985; B.S., 1992, M.S., 1994.

**Garcia, Aileen**, Assistant Professor of Counseling and Human Development and Teaching, Learning and Leadership, School of Education, Counseling and Human Development, Graduate Faculty; B.A., University of the Philippines -Diliman, 2006; M.A. Ateneo de Manila University, 2012; Ph.D., University of Nebraska-Lincoln, 2018.

**Garcia Fritz, Jessica**, Assistant Professor of Architecture, School of Design; B.A., University of Minnesota, 2005; M.Arch., 2009.

**Garcia Lammers, Federico**, Associate Professor of Architecture, School of Design; B.S., University of Minnesota, 2005; M.Arch., University of Minnesota, 2009.

**Gardezi, Maaz**, Assistant Professor of Sociology and Rural Studies, School of Psychology, Sociology and Rural Studies, Graduate Faculty; B.S., University of Bath, UK, 2008; M.S., University of Michigan, 2014; Ph.D., Iowa State University, 2017.

**Garren-Grubbs, Theresa**, Clinical Assistant Professor of Nursing; B.S.N., Auburn University, 2007; M.S., University of Iowa, 2013; D.N.P., Loyola University, 2020.

**Garry, Byron G.,** Associate Professor of Construction and Operations Management and Undergraduate Program Coordinator; B.S., South Dakota State University, 1981; M.S., 1988.

**Garst-Santos**, **Christine,** Associate Professor of Spanish and Director of American and Global Studies; B.A., Colorado State University, 1994; M.A., 1997; Ph.D., University of Iowa, 2013.

**Ge, Xijin,** Professor of Mathematics and Statistics, Graduate Faculty; B.S., Beijing University of Science and Technology, 1994; M.S., 1997; Ph.D., The University of Tokyo, 2000.

**Gertken, Nicole A.**, Academic Success and Recovery Program Coordinator, Wintrode Student Success Center; B.A. Concordia College, 2008; M.S., South Dakota State University, 2011.

**Gent, Stephen**, Professor of Mechanical Engineering, Graduate Faculty; B.S., Iowa State University, 2003; M.S., 2006; Ph.D., 2009.

**Ghabchi, Rouzbeh**, Assistant Professor of Civil and Environmental Engineering, Graduate Faculty; B.S., University of Tabriz, Iran, 1999; M.S., 2002; Ph.D., University of Oklahoma, 2014.

**Ghosheh, Hani**, Senior Lecturer of Agronomy, Horticulture and Plant Science, Graduate Faculty; B.S., University of Jordan, 1986; M.S., 1989; Ph.D., Texas A&M University, 1995.

**Gloege, Laura**, Lecturer of Teaching, Learning and Leadership, School of Education, Counseling and Human Development; B.S., Dakota State University, 2002; M.S., South Dakota State University, 2007.

**Glover, Karl D.**, Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; A.A.S., Iowa Lakes Community College, 1991; B.S., South Dakota State University, 1994; M.S., 1996; Ph.D., Kansas State University of Agriculture and Applied Sciences, 2000.

**Gonda, Michael,** Professor of Animal Science, Graduate Faculty; B.S., North Carolina State University-Raleigh, 1999; M.S., University of Wisconsin-Madison, 2003; Ph.D., University of Wisconsin-Madison, 2006.

**Gonzalez, Jose L.**, Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., University of Navarra (Spain), 1991; Post Graduate, Mediterranean Agronomic Institute of Zaragoza, 1995; Ph.D., University of North Dakota, 2000.

**Graham, Christopher**, Associate Professor/Extension Specialist - Agronomist of Agronomy, Horticulture, and Plant Science; B.S., Arizona State University, 2005; M.S., Columbia University, 2008; Ph.D., Cornell University, 2012.

**Granum, Melissa**, Lecturer of Counseling and Human Development, School of Education, Counseling and Human Development; B.S., South Dakota State University, 2006; M.Ed., 2013.

**Graves, Nicole A.**, Assistant Professor of Teaching Learning and Leadership; B.S., South Dakota State University, 1997; M.S., 2002; Ph.D., North Dakota State University, 2011.

**Grayson, Katie**, Professional Academic Advisor, Economics; B.S., South Dakota State University, 2008; M.S., 2010.

**Gross, Bethany A.**, Assistant Professor of Aerospace Studies; B.S., United States Air Force Academy, 2013, M.S., University of Arkansas, 2019.

**Gross, Jodi K.**, Instructor of Nursing; B.S, Presentation College, 2013, M.S.N, Presentation College, 2019.

**Grove, Nicole**, Senior Lecturer of Chemistry and Biochemistry; B.S., South Dakota School of Mines and Technology, 2002; Ph.D., Purdue University, 2011.

**Grubbs, Judson**, Assistant Professor of Animal Science, Graduate Faculty; B.S., Auburn University, 2006; M.S., Iowa State University, 2010; Ph.D., 2012.

**Gu, Xingyou**, Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., Yangzhou University (China), 1985; Ph.D., South China Agricultural University (China), 1997.

**Gu, ZhengRong**, Professor of Agricultural and Biosystems Engineering, Graduate Faculty; B.S., East China University of Science and Technology, 1997; M.S., 2000; Ph.D., Iowa State University, 2006.

**Gunaje, Jayarama,** Associate Professor of Pharmaceutical Sciences, Graduate Faculty; B.S., Mysore University (India), 1980; M.S., Mangalore University (India), 1982; Ph.D., Indian Institute of Science, Bangalore (India),1989.

**Guo, Zhiguang,** Adjunct Associate Professor of Chemistry and Biochemistry M.D., Zhongshen Medical University, 1986; Ph.D., University of Heidelberg, 1991.

**Gustafson, Kimberly**, Lecturer of Leadership and Management of Nonprofit Organizations, School of Health and Consumer Sciences; B.S., South Dakota State University, 2009; M.B.A., Southwest Minnesota State University, 2011.

**Gutzmer, Zachary**, Lecturer of Civil and Environmental Engineering; B.S., South Dakota State University, 2006; M.S., 2008.

**Hager, Lisa**, Assistant Professor of Political Science, School of American and Global Studies, Graduate Faculty; B.A., Wartburg College, 2009; M.A. Kent State University, 2013; Ph.D., 2016.

**Haggerty, Kayte M.**, Professional Academic Advisor, Economics; B.A., South Dakota State University, 2003; M.S., 2005.

**Halaweish, Fathi T.**, Professor of Chemistry and Biochemistry, Graduate Faculty; B.S., University of Mansoura (Egypt), 1976; M.S., 1981; Ph.D., University of Wales (United Kingdom), 1987.

**Hales, Patrick**, Assistant Professor of Teaching, Learning and Leadership, School of Education, Counseling and Human Development, Graduate Faculty; B.S., East Carolina University-Greenville, 2008; M.S., University of North Carolina-Greensboro, 2012; Ph.D., 2015.

**Hall, Clifford**, Professor of Dairy and Food Science, Graduate Faculty; B.S., University of Wisconsin-Riverfalls,1988; M.S., University of Nebraska, 1991; Ph.D., 1996.

**Halvorsen, Darin,** Lecturer of English; B.A., South Dakota State University, 2001; M.A., 2006.

**Hamer, George H.**, Associate Professor and Assistant Department Head of Electrical Engineering and Computer Science, Graduate Faculty; B.S., North Dakota State University, 1980; M.S., Moorhead State University, 1992; Ph.D., North Dakota State University, 2006.

**Hansen, Timothy**, Associate Professor of Electrical Engineering, Graduate Faculty; B.S., Milwaukee School of Engineering, 2011; Ph.D., Colorado State University, 2015.

**Hardin, Richard Cable**, Professor of Graphic Design, School of Design, Graduate Faculty; B.S., James Madison University, 1995; M.F.A. Ohio University, 1999.

**Haskett Jennings, Danielle**, Assistant Professor of Geography and Geospatial Sciences; B.S., University of Georgia, 2004; M.S., 2013; Ph.D., 2020.

**Hasselquist, Laura**, Assistant Professor of Teaching, Learning and Leadership, School of Education, Counseling and Human Development, Graduate Faculty; B.S., University of Wisconsin-River Falls, 2006; M.S., 2010; Ph.D., University of Missouri, 2017.

**Hatfield, Gary,** Associate Professor of Statistics, Graduate Faculty; B.S., Oklahoma State University, 1976; M.S.,1978; Ph.D., 2011.

**Hauschild-Mork, Melissa**, Associate Professor of Theatre, School of Performing Arts, Graduate Faculty; B.S., South Dakota State University, 1987; M.S., Indiana University, 1988; Ed.D., University of South Dakota, 2012.

**Hause, Ben M.**, Assistant Professor of Veterinary and Biomedical Science and Animal Disease Research and Diagnostic Laboratory, Graduate Faculty; B.A., University of Minnesota-Morris, 1998; M.S., University of Minnesota, 2001; Ph.D., South Dakota State University, 2013.

**Hayes, William**, Professor of Pharmacy Practice; B.S., South Dakota State University, 2007; Pharm.D., 2009.

**Heiberger, Amy**, Associate Professor of Pharmacy Practice; B.S., South Dakota State University, 2004; Pharm.D., 2008.

**Heier, Cori**, Instructor of Nursing; B.S.N., South Dakota State University, 2011; M.S.N., American Sentinel University, 2018.

**Heins, Jodi R.**, Professor and Assistant Department Head of Pharmacy Practice, Graduate Faculty; Pharm.D., University of Nebraska, 1993.

**Helland, James,** Instructor of Journalism and Mass Communication, School of Communication and Journalism; B.A., South Dakota State University, 1986; M.S., South Dakota State University, 2012.

**Heller, Barbara**, Lecturer of Entrepreneurial Studies and Marketing, Coordinator of Entrepreneurial Studies Program, Ness School of Management and Economics; B.S., South Dakota State University, 2003; M.S., 2004.

**Hellwig, Thaddaus**, Professor of Pharmacy Practice; B.S., Chadron State, 2002; Pharm.D., Texas Tech University, 2006.

**Hemphill, Gary**, Beavers Charitable Trust Professor of Practice in Heavy Construction; B.S, Babson College, 1972; M.S., Worcester Polytechnic Institute, 1976; M.S., University of Idaho, 1982; Ph.D., 1990.

**Hendricks, Marina**, Assistant Professor of Journalism, School of Communication and Journalism, Graduate Faculty; B.A., Marshall University, 1987; M.A., Kent State University, 2011; Ph.D., University of Missouri, 2017.

**Hendrickx, Lori D.**, Professor of Nursing, Graduate Faculty; B.S.N., University of North Dakota, 1981; M.S.N., University of Wisconsin, 1989; Ed.D., University of Montana, 1998.

**Hertler, Asha**, Professional Academic Advisor, College of Pharmacy and Allied Health Professions; B.A., Concordia College, 2009; M.Ed., South Dakota State University, 2016.

**Hietpas, Steven M.,** Professor of Electrical Engineering, Graduate Faculty; B.S., Montana State University, 1984; M.S., 1991; Ph.D., 1994.

**Hilbert, Jordan. D. E.**, Student Success Advisor, TRIO Department; B.S., South Dakota State University, 2015; M.S., 2017.

**Hintz, Wayne**, Instructor of Nursing; A.S.N., University of South Dakota, 2009; B.S.N, National American University, 2014; M.S.N., 2018.

**Hogue, Tracia**, Student Services Facilitator, Continuing and Distance Education; B.S., South Dakota State University, 2010; M.S., 2014.

**Holler, Larry**, Professor of Veterinary and Biomedical Sciences and Animal Disease Research and Diagnostic Laboratory and University Veterinarian, Graduate Faculty; B.S., Kansas State University, 1980; D.V.M., 1984; Ph.D., Washington State University, 1993.

**Holm, Amy**, Instructor of Counseling and Human Development, School of Education, Counseling and Human Development; B.A., South Dakota State University, 1992; M.A., Minnesota State University, 1994.

**Holmquist, Hanna**, Academic Advisor/Coordinator of Student Services, Van D. & Barbara B. Fishback Honors College; B.S., South Dakota State University, 2013; M.S., 2015.

**Hoppe, Adam**, Professor of Chemistry and Biochemistry, Graduate Faculty; B.A., Concordia College, 1997; M.S., University of Wisconsin, 1999; Ph.D., University Michigan Ann Arbor, 2003.

**Horsley, Gwen K.**, Instructor of English; B.A., University of South Dakota, 1994; M.A., 1997.

**Hoskinson, Anne-Marie**, Assistant Professor of Biology and Microbiology, Graduate Faculty; Ph.D., University of Minnesota, 2006.

**Hostettler, Tim**, Program Director and Associate Professor of Practice of Concrete Industry Management; A.S., Butte Community College, 1986; B.S., University of Phoenix, 2012; M.B.A., Middle Tennessee State University, 2015.

**Howard, Gregory**, Lecturer of Counseling and Human Development, School of Education, Counseling and Human Development, Graduate Faculty; B.A., University of Nebraska, 1979; M.S.W., 1982; Ph.D., Texas Tech University, 1991.

**Hoyes, Natalie**, Professional Academic Advisor, Animal Science; B.S., South Dakota State University, 2017; M.S., 2019.

**Hu, Zhong,** Professor of Mechanical Engineering, Graduate Faculty; M.S., Tsinghua University (China), 1983; Ph.D., 1988.

**Hua, Guanghui,** Associate Professor of Civil and Environmental Engineering, Graduate Faculty; B.S.,1997, M. Eng. 2000, Qingdao Technological University, China; Ph.D., University of Massachusetts at Amherst, 2006.

**Huber, Erika A.,** Lecturer of Nursing; B.S., South Dakota State University, 1997; M.S., University of New Mexico, 2007.

**Hublou, Lynn M.**, Lecturer of English; B.A., South Dakota State University, 1979; M.A., 1984.

**Huh, Yung Moo**, Professor of Physics, Graduate Faculty; B.S., Myongji University (Korea), 1997; Ph.D., Iowa State University, 2001; M.S., 2002.

**Hummel, Christopher,** Lecturer of History, School of American and Global Studies; BA, University of Minnesota-Morris, 1993; M.A., University of Wisconsin-Madison, 1998.

**Hunt, Aaron**, Master of Public Health Program Coordinator and Assistant Professor, Graduate Faculty; B.S., University of Nevada Reno, 2007; M.P.H., University of Nevada Las Vegas, 2013; Ph.D., 2018.

**Hunter, Karla**, Professor of Communication Studies, School of Communication and Journalism, Graduate Faculty; B.A., Augustana College, 1992; M.A., University of Oklahoma, 1995; Ph.D., 2000.

**Huth, Charles**, Instructor of Mathematics; B.S., South Dakota State University, 2016; M.S., 2018.

**Irvin, Kyle**, Instructor of Political Science, School of American and Global Studies; B.A., Northwestern College, 2002; J.D., University of Iowa, 2005.

**Irvine-Miller, Meagan N.**, Professional Academic Advisor, Wintrode Student Success Center; B.S., Emporia State University, 2008; M.Ed., South Dakota State University, 2018.

**Isaacson, Mary J.**, Associate Professor of Nursing, Graduate Faculty; B.S., South Dakota State University, 1998; M.A., Augustana College, 2002; Ph.D., Indiana University, 2009.

**Jacobs, Laura**, Academic Advisor, College of Nursing; B.S., South Dakota State University, 2007; M.Ed., 2010.

**Jacobson, Stephanie**, Upward Mobility Instructor, College of Pharmacy and Allied Health Professions; B.S., University of North Dakota, 2007; M.S., 2010.

**James, Matthew R.**, Associate Professor of Landscape Architecture, School of Design; B.S, South Dakota State University, 2001; M.S., 2002; Ed.D., University of South Dakota, 2009.

**Janaswamy, Srinivas**, Assistant Professor of Dairy and Food Science; B.S., Nagarajuna University, India, 1989; M.S., Mysore University, India, 1991; Ph.D., Indian Institute of Technology, 1997.

**Jasper, John**, Assistant Professor of Mathematics; B.A., Western Washington University, 2003; M.S., University of Oregon, 2007; Ph.D., 2011.

**Jensen Bender, Wendy S.**, Professor of Pharmacy Practice; B.S., South Dakota State University, 1993; Pharm.D., 1995.

**Jensen, Amber**, Lecturer of English; B.A., South Dakota State University, 2000; M.A., 2008; M.F.A., University of New Orleans, 2012.

**Jensen, Becky**, Director Nutrition and Dietetics Internship, Instructor of Nutritional Sciences, School of Health and Consumer Sciences; B.S., South Dakota State University, 1993; M.S., 2009.

**Jensen, Brady**, Instructor/Livestock Judging Coach; B.S., Kansas State University, 2015; M.S., 2017.

**Jensen, Kent C.**, Associate Professor of Natural Resource Management, Graduate Faculty; A.A., Fullerton College, 1979; B.S., South Dakota State University, 1985; M.S., Montana State University, 1988; Ph.D., Texas A&M University, 1990.

**Jewell, Melody E.**, Senior Lecturer of Chemistry and Biochemistry, Graduate Faculty; B.A., University of Minnesota, 1997; B.S., 1997; M.S., 1999; Ph.D., 2002.

**Ji, Young-Hee**, Instructor of Mathematics and Statistics; B.S, Ewha Womans University, Korea 1991; M.S., 1993; M.S., New York University, 2001.

**Jin, Hailong**, Assistant Professor of Economics, Ness School of Management and Economics; B.A., Jilin University, China 2002; M.S., Tsinghua University, China 2007; Ph.D., Iowa State University, 2013.

**Johnson, Jennifer**, Instructor of Early Childhood Education; B.S., University of Wisconsin-La Crosse, 1995; M.Ed., University of Minnesota-Duluth, 2010.

**Johnson, Mary Beth**, Lecturer of Nursing; B.A., Luther College, 1980; M.S., University of Minnesota, Minneapolis, 1990.

**Johnson, Paul J.**, Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., Oregon State University, 1982; M.S., University of Idaho, 1987; Ph.D., University of Wisconsin, 1992.

**Johnson, Teri**, Senior Lecturer of Counseling and Human Development, School of Education, Counseling and Human Development; B.S., South Dakota State University, 1986; M. Div., Iliff School of Theology, 1990; D. Ministry, S.F. Seminary, 2000.

**Johnson Maier, Kimberly (Kim) K.**, Instructor of Geography and Geospatial Sciences, B.A. Northern State University, 2011; M.S., South Dakota State University, 2013.

**Jones, Eluned**, Professor and Director of the Ness School of Management and Economics; B.S., University of Bath (United Kingdom), 1977; M.S., North Carolina State University, 1979; Ph.D., Texas A&M University, 1987.

**Juarez, Jessica R.**, Faculty Coordinator and Lecturer of Veterinary and Biomedical Sciences; B.S., Iowa State University, 2010; M.S., 2012, 2020; D.V.M., 2014.

**Julius, Maria**, Instructor of Aviation, School of Health and Consumer Sciences; B.S., South Dakota State University, 2005; B.A., 2005; M.Ed., 2007.

**Junker, Anne-Marie**, Instructor of Fashion Studies and Apparel Merchandising, School of Health and Consumer Sciences; B.S., South Dakota State University, 2011; M.S. 2016.

**Kappes, John,** Professor of Pharmacy Practice; B.S., South Dakota State University, 2005; Pharm.D., 2007.

**Karki, Bishnu**, Assistant Professor of Biology and Microbiology; B.S., Tribhuvan University, Nepal, 2001; M.S., Asian Institute of Technology, 2005; Ph.D., Iowa State University, 2009.

**Kaushik, Radhey S.**, Department Head of Biology and Microbiology, Professor of Biology and Microbiology and Veterinary and Biomedical Sciences, Graduate Faculty; B.S., Haryana Agricultural University (India), 1985; M.S., 1988; Ph.D., University of Saskatchewan (Canada), 1998.

**Kayaalp, Alper**, Assistant Professor of Psychology, School of Psychology, Sociology and Rural Studies, Graduate Faculty; B.S., Turkish Army Academy (Turkey), 1999; M.A., West Chester University of Pennsylvania, 2004; M.A., Turkish Army War College (Turkey), 2008; Ph.D., Universite Libre de Bruxelles (Belgium), 2013.

**Keay, Myoung**, Assistant Professor of Economics, Ness School of Management and Economics; B.A., Yonsei University, Korea 2001; M.A., Seoul National University, Korea, 2004, Ph.D., Michigan State University, 2012.

**Kelley, Van C.**, Associate Professor and Department Head of Agricultural and Biosystems Engineering, Director of Water Resources Institute, Graduate Faculty; B.S., Texas A&M University, 1976; M.S., New Mexico State University, 1978; Ph.D., University of Illinois, 1999.

**Kessler, Kevin**, Senior Lecturer of Music, School of Performing Arts; B.M.E., South Dakota State University, 1978; M.M., Southern Oregon University, 2004; D.M.A., University of Iowa, 2015.

**Kettwig, Jason W.**, Adjunct Professor and Department Head of Military Science; B.S., South Dakota State University, 1998; MBA., Trident University International, 2011; M.S., US Army War College.

**Kharel, Parashu**, Associate Professor of Physics, Graduate Faculty. B.S. Tribhuvan University (Nepal), 1989; M.S., 1994; M.A. Wayne State University, 2006; Ph.D., 2008.

**Kightlinger, Lon**, Adjunct Assistant Professor of Biology and Microbiology; B.A., Augustana College, 1977; Ph.D., University of North Carolina, 1993.

**Kim, Young Ae**, Associate Professor of Graphic Design/Program Coordinator, School of Design; B.F.A., Sookmyung Women's University, 2000; M.F.A., Savannah College of Art and Design, 2008; M.A., University of South Dakota, 2017.

**Kimn, Jung-Han,** Associate Professor of Mathematics, Graduate Faculty; B.A., Yonsei University, 1992; M.S., Seoul University, 1994; Ph.D., New York University, 2001.

**Kirby, Jacquelyn A**., Nursing Learning Lab Coordinator; B.S., South Dakota State University, 1989.

**Kirby, September L.**, Instructor of Community Public Health,School of Health and Consumer Sciences; B.S., South Dakota State University, 1983; M.S., 1994.

**Kirshner, Luz Angélica**, Assistant Professor of Spanish, School of American and Global Studies; B.A., Universidad de Los Andes (Colombia), 1981; M.A., Bielefeld University (Germany), 2002; Ph. D., Pennsylvania State University, 2008.

**Klein, Nicole L.**, Professor of Agricultural Economics and Associate Director for the Ness School of Management and Economics, Graduate Faculty; B.A., South Dakota State University, 1990; M.S., Kansas State University, 1994; Ph.D., 1996.

**Kluck, Jennifer,** Lecturer of English; B.A., South Dakota State University, 2004; M.A, 2006.

**Knudsen, David E. B**., Professor of Veterinary and Biomedical Sciences, and Animal Disease Research and Diagnostic Laboratory, Graduate Faculty; B.S., Colorado State University, 1979; D.V.M., 1982.

**Kolady, Deepthi**, Associate Professor of Agriculture and Food System Economics, Ness School of Management and Economics; M.Sc., University of Agricultural Sciences, India, 2000; Ph.D., Cornell University, 2007.

**Koob, Elizabeth**, Professional Academic Advisor, College of Arts, Humanities and Social Sciences; B.A., Augustana University, 2016; M.S., South Dakota State University, 2019.

**Koromyslova, Ekaterina A.**, Associate Professor of Construction and Operations Management, Graduate Faculty; B.S., M.S., Saratov State Technical University (Russia), 2004; Ph.D., Saratov State Technical University, 2007.

**Kosse, Elijah**, Instructor of Applied Economics, Ness School of Management and Economics; B.A., University of Idaho, 2013; M.S., 2015.

**Kovács, Péter**, Assistant Professor of Agronomy, Horticulture and Plant Science, Graduate Faculty; M.S., Cranfield University, 2008; M.S., Szent István University, 2008; Ph.D., Purdue University, 2013.

**Krafsur, Greta M.**, Assistant Professor of Veterinary and Biomedical Sciences and Animal Disease Research and Diagnostic Laboratory, Graduate Faculty; B.S., South Dakota State University, 1991; M.Sc., University of Tennessee, 1997; D.V.M., Colorado State University, 2013.

**Kraljic, Mary B.**, Professor, H.M. Briggs Library; B.S., Saint Cloud State University, 1980; M.A., University of Texas, 1984; M.L.S., Texas Woman's University, 1989.

**Krishnan, Padmanaban G.**, Professor of Dairy and Food Science/Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., University of Madras (India),1977; M.S., North Dakota State University, 1983; Ph.D., 1989.

**Kruer, Michael,** Adjunct Assistant Professor of Chemistry and Biochemistry; B.S., Arizona State University, 2001; M.D., University of Arizona College of Medicine, 2004.

**Krumm, Beverly**, Lecturer of Graphic Design, School of Design; B.A., Iowa State University, 1981; M.F.A., Iowa State University, 2011.

**Kuehl, Rebecca A.**, Associate Professor of Communication Studies and Associate Director for the School of Communication and Journalism, Program Coordinator for Women, Gender, and Sexuality Studies, Graduate Faculty; B.A., Gustavus Adolphus College, 2005; M.A., University of Georgia, 2007; Ph.D., University of Minnesota, 2011.

**Kumar, Sandeep**, Associate Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., Himachal Pradesh Agriculture University, 2006; M.S., 2006; Ph.D., University of Missouri-Columbia, 2009.

**Kurtenbach, Paula L.**, Lecturer of Computer Science; B.S., South Dakota State University, 1985; B.S., 1994; M.S., 2002.

**Ladonski, James B.**, Lecturer of Biology and Microbiology; B.S., Michigan State University, 1995; Southern Illinois University, 1999.

**Laible, Brad R.**, Professor of Pharmacy Practice, Graduate Faculty; B.S., South Dakota State University, 1999; Pharm.D., 2001.

**Lamb, LeAnn**, Instructor of Nursing; B.S., Gannon University, 1993; M.S., University of Wisconsin, 2002.

**Lang, Kristine**, Assistant Professor of Agronomy, Horticulture and Plant Science, Graduate Faculty; B.S., University of Minnesota, 2012; Ph.D., Iowa State University, 2019.

**Langelett, George L.**, Professor of Economics, Ness School of Management and Economics, Graduate Faculty; B.S., Northwestern Lutheran Theology Seminary, 1991; Ph.D., University of Nebraska, 2000.

**Lansink, Stacie**, Program Director and Instructor of Medical Laboratory Science; B.S., University of Nebraska Medical Center, 1999; M.S., University of North Dakota, 2015.

**LaPorte, Kyle**, Assistant Professor of Pharmacy Practice; Pharm.D., North Dakota State University, 2014.

**Larson, Christina M.**, Assistant Professor of Veterinary and Biomedical Sciences; B.A., University of Minnesota-Morris, 1994; D.V.M., University of Minnesota-Twin Cities, 2002.

**Larson, Christine L.**, Professor of Mathematics and Statistics, Graduate Faculty; B.A., Augustana College, 1985; M.S., Montana State University, 1987; Ed.D., 1996.

**Latvis, Maribeth**, Assistant Professor of Natural Resource Management, Graduate Faculty; B.S., University of Michigan, 2005; Ph.D., University of Florida, 2013.

**Lavender, Erin S.**, Assistant Professor of Counseling and Human Development, School of Education, Counseling and Human Development, Graduate Faculty; B.A., Hollins University, 2010; M.A., University of North Carolina Wilmington, 2013; Ph.D., Virginia Polytechnic Institute and State University, 2018.

**Lee, Brian**, Lecturer of Architecture, School of Design; B.Arch., Iowa State University, 2002; M.Arch., Cranbrook Academy of Art, 2012.

**Lee, Lance**, Adjunct Associate Professor; B.S., Boston College, 1995; M.S., University of Connecticut, 1997; Ph.D., Stony Brook University, 2004.

**Leffler, A. Joshua**, Associate Professor of Natural Resource Management, Graduate Faculty; Ph.D., University of New Mexico, 1999.

**Leibold, Julie**, Lecturer of Chemistry and Biochemistry; B.S., University of Wisconsin – Oshkosh, 2008; Ph.D., Colorado School of Mines, 2013.

**Leiferman, Deborah L.**, Instructor of Mathematics and Statistics; B.S., Northern State University, 1980; B.S., South Dakota State University, 1984; M.S., 1989.

**Lemon, Michael D.**, Professor of Pharmacy Practice; A.S., Colby Community College, 1990; Pharm.D., University of Kansas, 1994.

**Lenertz, Kristin**, Lecturer of Biology and Microbiology; B.S., Jacksonville University, 1996; M.S., Auburn University, 2002.

**Leschewski, Andrea**, Assistant Professor of Agribusiness, Ness School of Management and Economics; B.A., Carthage College, 2001; M.S., Michigan State University, 2014; Ph.D., 2016.

**Letcher, Amber**, Extension Specialist - Youth Development, Associate Professor of Counseling and Human Development, School of Education, Counseling and Human Development, Graduate Faculty; B.S., South Dakota State University, 2005; M.S., Ohio State University, 2008; Ph.D., 2012.

**Letcher, Todd**, Associate Professor of Mechanical Engineering, Graduate Faculty; B.S., South Dakota State University, 2005; M.S., Ohio State University, 2008; Ph.D., 2012.

**Levesque, Crystal,** Associate Professor of Animal Science, Graduate Faculty. B.S., University of Saskatchewan, 1999; M.S., 2002; Ph.D., University of Alberta, 2010.

**Lewis, Jessica A**., Advising & Recruitment Coordinator, College of Arts, Humanities and Social Sciences; B.A, South Dakota State University, 2004; M.S., 2011; M.S., 2011.

**Li, Dapeng**, Assistant Professor of Geography and Geospatial Sciences; Graduate Faculty; B.S., China University of Geosciences (Beijing), 2008; M.S., Peking University, Beijing, China, 2011; Ph.D., University of Utah, 2016.

**Li, Wanlong**, Professor of Biology and Microbiology, Graduate Faculty; B.S., Northwestern A&F University (China), 1984; M.S., 1987; Ph.D., Nanjing Agricultural University (China), 1993.

**Li, Xu**, Assistant Professor of Hospitality Management, School of Health and Consumer Sciences, Graduate Faculty; B.A., Xi'an International Studies University (China), 1998; M.S., Shaanxi Normal University (China), 2001; Ph.D., University of Central Florida, 2013.

**Lin, Chun-Ming**, Assistant Professor of Veterinary and Biomedical Sciences and Animal Disease Research and Diagnostic Laboratory; B. Vet. Med., M.S., Ph.D., National Taiwan University, 2012; Postdoc, The Ohio State University, 2017; Anatomic Pathology Residency, Tufts University, 2020.

**Liu, Hungling (Stella)**, Assistant Professor of Sport and Recreation, School of Health and Consumer Sciences, Graduate Faculty; B.Ed., National Hsinchu Teacher's College, 2003; M.Ed., National Taiwan Normal University, 2005; Ph.D., Oklahoma State University, 2012.

**Liu, Yucheng**, Duane Sander Endowed Professor and Department Head of Mechanical Engineering, Graduate Faculty; B.S., Hefei University of Technology, 1997; M.S., University of Louisville, 2003; Ph.D., 2005.

**Logue, Brian A.**, Professor of Chemistry and Biochemistry, Graduate Faculty; B.S., South Dakota State University, 1995; Ph.D., Oregon State University, 2001.

**Lonsinger, Robert**, Assistant Professor of Natural Resource Management, Graduate Faculty; B.S., Gannon University, 2002; M.S., New Mexico State University, 2010; Ph.D., University of Idaho, 2015.

**Lopez-Mosqueda, Jaime**, Assistant Professor of Biology and Microbiology; B.S., California State University, Northridge, 2002; Ph.D., University of California, San Francisco, 2011.

**Lounsbery, Nicole B.**, Director of the Graduate School; B.A., University of South Dakota, 1995; M.A., University of South Dakota, 1998; Ph.D., South Dakota State University, 2014.

**Lu, Huitian,** Professor of Construction and Operations Management, Graduate Faculty; B.S., 1982; M.S., 1986; M.S., Texas Technical University, 1992; Ph.D., 1998.

**Lucchesi, Roxanne**, Professor of Journalism and Mass Communication, School of Communication and Journalism; B.A., South Dakota State University, 1983; M.A., University of Illinois, 1985.

**Ma, Qin**, Assistant Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., Shandong University, 2005; Ph.D., Shandong University, 2010; Ph.D., University of Georgia, 2010.

**Madsen, Lisa J.**, Lecturer of English; B.A., South Dakota State University, 1995; M.A., 1998.

**Madsen, Sara K.**, Senior Lecturer of Chemistry and Biochemistry; B.A., Central Washington University, 1988; Ph.D., University of Wyoming, 1998.

**Maher, Aimee H.**, Student Services Facilitator, Continuing and Distance Education; B.Ed., Anderson University, 2010; B.S, California University of Pennsylvania, 2006; M.S., University of West Florida, 2008.

**Malone, Katherine,** Associate Professor of English, Graduate Faculty; B.A., Cabrini College, 1997; Ph.D., Temple University, 2009.

**Markel, Paul D.**, Professor of Psychology and Director for the School of Pyschology, Sociology and Rural Studies, Graduate Faculty; B.A., University of Mary, 1990; M.A., University of Colorado, 1993; Ph.D., 1995.

**Martin, Rebecca**, Professor of Psychology, School of Psychology, Sociology and Rural Studies; B.S., Michigan State University, 1996; M.A., University of Connecticut, 2002; Ph.D., 2004.

**Matson, W Robert**, Lecturer in Physics; B.S., Humboldt State University, 1999; Ph.D., Oklahoma State University, 2004.

**Mathew, Febina**, Associate Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.Tech., Indian Institute of Technology, Kharagpur, India, 2001; M.S., North Dakota State University, 2007; Ph.D, North Dakota State University, 2014.

**May, Candace**, Assistant Professor of Sociology and Rural Studies, School of Psychology, Sociology and Rural Studies, Graduate Faculty; B.A., Western Carolina University, 2004; M.A., University of Wyoming, 2006; Ph.D., Colorado State University, 2011.

**Mayeux, Jack**, Clinical Assistant Professor of Nursing; A.S.N., Our Lady of the Lake College, 2008, B.S.N, 2012; M.S.N, University of Louisiana at Lafayette, 2014; D.N.P., University of Alabama, 2019.

**McClanahan, Nathan**, Lecturer of Mathematics; B.S., South Dakota State University, 2006; M.S., 2008; Ph.D., Montana State University, 2016.

**McCormack, Lacey**, Associate Professor of Nutritional Sciences and Director, Didactic Program in Dietetics, School of Health and Consumer Sciences, Graduate Faculty; B.S., South Dakota State University, 2006; M.P.H., University of Minnesota, 2009; Ph.D., South Dakota State University, 2013.

**McCrea, Don**, Instructor of Natural Resource Management; B.S., South Dakota State University, 1981; M.S., California Coast University, 2017.

**McEntee, Jason T.**, Professor and Department Head of English, Graduate Faculty; B.A., South Dakota State University, 1994; M.A., 1998; Ph.D., University of Kentucky, 2004.

**McGill, Sarah**, Assistant Professor of Pharmacy Practice; B.S., South Dakota State University, 2009; Pharm.D., 2011.

**McKillip, Angela**, Associate Professor of Interior Design/Program Coordinator, School of Design; B.S., South Dakota State University, 2005; M.Arch, University of Minnesota, 2008.

**McKnight, Ryan**, Lecturer of Management, Law and Real Estate, Ness School of Management and Economics; B.S., South Dakota State University, 2012; J.D., University of South Dakota, 2015.

**McMaine, John**, Assistant Professor of Agricultural and Biosystems Engineering, Water Management Engineer; B.S., University of Kentucky, 2011; M.S., 2013; Ph.D., Oklahoma State University, 2017.

**McTaggart, Robert**, Assistant Department Head and Professor of Physics, Graduate Faculty; B.A., West Virginia University, 1991; B.S., 1991; Ph.D., Pennsylvania State University, 1999.

**Mediger, Jessica**, Lecturer of Biology and Microbiology, M.S., South Dakota State University, 2013.

**Meendering, Jessica**, Professor of Exercise Science, School of Health and Consumer Sciences, Graduate Faculty; B.S., South Dakota State University, 2002; M.S., University of Oregon, 2004; Ph.D., 2007.

**Mehlhaff, Amanda**, Instructor of Nursing; B.S.N., South Dakota State University, 2003; M.S.N., Western Governors, 2017.

**Menendez, Hector**, Assistant Professor/Research and Extension Specialist-Livestock Grazing, Graduate Faculty; B.S., Sam Houston State University, 2010; M.S., 2012; Ph.D., South Dakota State University, 2018.

**Merriman, Janet, E.,** Lecturer of Construction and Operations Management; B.S., United States Naval Academy, 1992; M.Eng., The Pennsylvania State University, 2000.

**Messerli, Mark**, Associate Professor of Biology and Microbiology, Graduate Faculty; B.S., Purdue University, 1992; Ph.D., 1999.

**Messerschmidt, Kimberly**, Professor of Pharmacy Practice, Graduate Faculty; B.S., South Dakota State University, 1985; Pharm.D., 1995.

**Meyer, Brittney,** Associate Professor of Pharmacy Practice; B.S., South Dakota State University, 2007; Pharm.D., 2009.

**Michael, Semhar**, Associate Professor of Statistics; B.S., University of Asmara, 2006; M.S., University of North Dakota, 2011; Ph.D., The University of Alabama, 2015.

**Michna, Gregory**, Associate Professor of Mechanical Engineering, Graduate Faculty; B.S., University of Wisconsin, 2001; Ph.D., University of Illinois, 2006.

**Michna, Sarah M.**, Instructor of Mechanical Engineering; B.S., University of Wisconsin, 2001; M.S., University of Illinois, 2004.

**Middendorf, Alex W.**, Assistant Professor of Pharmacy Practice; Pharm.D., M.B.A, Drake University, 2013.

**Miller, Erin E.**, Assistant Professor of Allied and Population Health; B.S., North Dakota State University, 2008; Pharm.D., 2010; M.B.A., 2011.

**Miller, Matthew L.**, Assistant Department Head and Professor of Chemistry and Biochemistry, Graduate Faculty; B.S., University of South Dakota, 1985; M.S., Purdue University, 1998; Ph.D., 2001.

**Miller, Robert A.**, Lecturer of Construction and Operations Management; B.S., Purdue University, 1979; M.S, Purdue University, 1985, Ph.D., Colorado State University, 1992.

**Miller, Tyler**, Associate Professor of Psychology, School of Psychology, Sociology and Rural Studies; B.A., Buena Vista University, 2004; M.S., Emporia State University, 2008; Ph.D., Texas A&M University, 2012.

**Millett, Bruce**, Assistant Professor of Geography and Geospatial Sciences; B.S., Plymouth State University, 1995; M.S., 1999; Ph.D., South Dakota State University, 2004.

**Min, Kyungnan**, Lecturer of Civil and Environmental Engineering; B.S., Ajou University, Suwon South Korea, 1995; M.S., 1997; Ph.D., University of Massachusetts, 2006.

**Miskimins, W. Keith**, Adjunct Professor; B.S., University of Wyoming; M.S., Ph.D., University of Arizona, 1982.

**Mollman, Sarah**, Assistant Professor of Nursing; B.S.N., South Dakota State University, 2000; M.S., 2011; Ph.D., University of Nevada, 2018.

**Monson, Lyncee**, Lecturer of Nursing; B.S., Presentation College, 2001; M.S.N., Western Governors, 2014.

**Moradi Rekabdarkolaee, Hossein**, Assistant Professor of Statistics; B.S., University of Mazandaran, 2008; M.S., Tarbiat Modares University, 2012; M.S., Virginia Commonwealth University, 2015; Ph.D., 2016.

**Morrison, Kathryn**, Lecturer of Consumer Affairs, School of Health and Consumer Sciences; B.S., South Dakota State University, 2002; M.S., 2004; Ph.D., Iowa State University, 2009.

**Moyer, Benjamin**, Academic Advisor, College of Nursing; B.S., Kutztown University of Pennsylvania, 2011; M.Ed., Bloomsberg University of Pennsylvania, 2013.

**Murphy, Arthur James,** Associate Professor of Religion, School of American and Global Studies; B. A. Evangel University, 1998; M. A. Missouri State University, 2001; Ph.D. University of Denver, 2011.

**Murphy, Bethann**, Instructor of Teaching, Learning and Leadership, School of Education, Counseling and Human Development; B.S., Dakota State University, 2010; M.S., Southwest Minnesota State University, 2013.

**Murray, Linde**, Tutoring and TRIO Programs Director; Wintrode Student Success Center; B.A., University of Northern Colorado, 2002; M.S., South Dakota State University, 2009; Ed.D., University of South Dakota, 2013.

**Myrick, April M.**, Lecturer of English; B.A., South Dakota State University, 2001; M.A., 2003.

**Nagy, Michael S.**, Associate Professor of English, Graduate Faculty; B.A., Kent State University, 1987; M.A., 1992; Ph.D., Saint Louis University, 2001.

**Nelsen, April**, Instructor of Medical Laboratory Science; B.S., South Dakota State University, 2009; M.S., 2015.

**Nelson, Tracy L.**, Lecturer of Physical Education Teacher Education, School of Health and Consumer Sciences; B.S. South Dakota State University, 1998; M.S., 2007; Ed.D. University of South Dakota, 2012.

**Nepal, Madhav**, Professor of Biology and Microbiology, Graduate Faculty; M.S., Tribhuvan University (Nepal), 1997; M.S., University of Northern Iowa, 2003; Ph.D., University of Kansas State-Manhattan, 2008.

**Nesmith, Mary Jo**, Lecturer of Communication Studies, School of Communication and Journalism; B.S., South Dakota State University, 1996; M.S., 1999; Ed.D., University of South Dakota, 2003.

**Ness, Jody**, Lecturer of Nursing; B.S., South Dakota State University, 1997; M.S., 2005.

**Nguyen, Kim-Doang**, Assistant Professor of Mechanical Engineering, Graduate Faculty; B. E., Nanyang Technological University, Singapore 2007; M.E., 2010; Ph.D., University of Illinois at Urbana-Champaign, 2015.

**Nleya, Thandiwe M**., Associate Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., University of Zimbabwe (Zimbabwe), 1984; M.S., Southampton University (England), 1989; Ph.D., University of Saskatchewan (Canada), 1997.

**Nold, Rosemarie**, Professor and Assistant Department Head of Animal Science, Graduate Faculty; B.S., South Dakota State University, 1988; M.S., Kansas State University, 1990; Ph.D., South Dakota State University,1997.

**Numata, Izaya,** Assistant Research Professor, Geospatial Sciences Center of Excellence; B.S., University of Sao Paulo, 1996; M.S., Instituto Nacional de Pesquisas Espaciais, 1999; Ph.D., University of California, Santa Barbara, 2006; D.M., Colorado Technical Institute, 2014.

**Nusz, Norma**, Senior Lecturer of Construction and Operations Management; B.S., S.D. School of Mines and Technology, 1982; M.S., South Dakota State University, 2005; D.M., Colorado Technical Institute, 2014.

**O'Brien, Jamie L.**, Professor of Economics, Ness School of Management and Economics; B.S., Augustana College, 1980; M.P.A., University of South Dakota, 1984; J.D., 1982.

**Ochsner, Melissa**, Professional Academic Advisor, College of Education and Human Sciences; B.M.E., South Dakota State University, 2008; M.Ed., 2010.

**O'Leary, Katie**, Instructor of English; B.A., University of South Dakota, 2008; M.A., 2010; J.D., Hamline University, 2014.

**Olson, Jill**, Clinical Instructor of Respiratory Care; A.S., Dakota State University, 1989; B.S., 1990.

**Olson, Kenneth C.**, Extension Beef Specialist, Professor of Animal Science, Graduate Faculty; B.S., Montana State University, 1979; M.S., 1982; Ph.D., Utah State University, 1986.

**Olson, Megan K.**, Professional Academic Advisor, Wintrode Student Success Center; B.S., University of Wisconsin-Milwaukee, 2015; M.S., University of Wisconsin-Milwaukee, 2018.

**Orth, Mandy**, Lecturer of Biology and Microbiology; B.S. South Dakota State University, 2008; M.S., 2012; Ph.D., 2018.

**Osborne, Christy A.**, Professional Academic Advisor, Wintrode Student Success Center; B.S., South Dakota State University, 1982.

**Osborne, Lawrence**, Adjunct Assistant Professor of Agronomy, Horticulture, and Plant Science; B.S., University of Nebraska, 1996; M.S., 1999; Ph.D., South Dakota State University, 2006.

**Osborne, Shannon L.**, Adjunct Professor of Agronomy, Horticulture, and Plant Science; B.S., Oklahoma State University, 1994; M.S., 1996; Ph.D., University of Nebraska, 1999.

**Osman, Shazali**, Instructor of Mechanical Engineering; B.S., McMaster University, 2010; M.S., Lakehead University, 2011; Ph.D., 2018.

**Osorio, Johan**, Assistant Professor of Dairy and Food Science, Graduate Faculty; B.S., Escuela Agricola Panamericana, Honduras, 2004; M.S., University of Illinois, 2010; Ph.D., 2014.

**Osterloh, Kristopher**, Assistant Professor of Agronomy, Horticulture and Plant Science, Graduate Faculty; B.S., California Polytechnic State University, 2011; M.S., Northern Illinois University, 2013; Ph.D., Oregon State University, 2018.

**Owen, Jody L.**, Director, Wintrode Student Success Center and Coordinator for Undergraduate Academic Advising, Wintrode Student Success Center; B.S., South Dakota State University, 1996; M.S., 2002; Ed.D. University of South Dakota, 2012.

**Owens, Brett**, Instructor of Horticulture; B.S., South Dakota State University, 2013; M.S., 2015.

**Palmer, David**, Professor of Management, Ness School of Management and Economics; B.S., State University of New York at Binghamton, 1982; M.B.A., Bowling Green State University, 1987; Ph.D., Purdue University, 1997.

**Park, Kunsoon**, Associate Professor of Hospitality Management, School of Health and Consumer Sciences, Graduate Faculty; B.S., University of Nebraska, Omaha, 1995; M.B.A, 1995; M.S., Virginia Polytechnic Institute and State University, 2001; Ph.D., 2006.

**Paulson, Carmen**, Lecturer in Animal Science; B.S., North Dakota State University, 1992; DVM, Colorado State University, 1996.

**Pasquariello, Elizabeth A**., Lecturer of Nursing; B.S., Mount Mercy College, 2003; M.S., University of Phoenix, 2011.

**Patnoe, Lacy**, Program Director and Instructor of Respiratory Care; A.S., Dakota State University, 2008; B.S., 2010; M.S., University of South Dakota, 2013.

**Pawlovich, Michael**, Assistant Professor of Civil and Environmental Engineering, Graduate Faculty; B.S., Iowa State University, 1994; M.S., 1996; Ph.D, 2003.

**Pearce, David**, Adjunct Professor of Chemistry and Biochemistry; B.S., University of Wolverhampton, 1986; Ph.D., University of Bath, 1989.

**Pedersen, Amy**, Lecturer of Counseling and Human Development, School of Education, Counseling and Human Development; B.S., South Dakota State University, 1990; M.Ed., 2006.

**Pedersen, Scott**, Professor of Biology and Microbiology, Graduate Faculty; B.A., University of Colorado, 1984; M.A., 1988; Ph.D., University of Nebraska, 1993.

**Pelzel, Heidi A.**, Lecturer of Nursing; B.S., South Dakota State University, 2005; M.S., 2014.

**Perkins, Lora**, Associate Professor of Natural Resource Management, Graduate Faculty; B.S., New Mexico State University, 2004; M.S., Oregon State University, 2006; Ph.D., University of Nevada, 2010.

**Perry, George**, Adjunct Professor of Animal Science, Extension Beef Specialist, Graduate Faculty; B.S., Texas A&M University, 1998; M.S., University of Missouri, 2000; Ph.D., 2003.

**Perumal, Omathanu P.**, Professor and Department Head of Pharmaceutical Sciences, Graduate Faculty; B.S., Tamilnadu Dr MGR Medical University (India), 1995; M.S., Birla Institute of Technology (India), 1998; Ph.D., National Institute of Pharm. Education (India), 2003.

**Peters, Douglas J.**, Instructor of Mechanical Engineering; B.A., Southwest State University, 1984; B.S., South Dakota State University, 2001; M.S., University of North Dakota, 1991.

**Peters, Stacy**, Professor of Pharmacy Practice; B.S., South Dakota State University, 2002; Pharm.D., 2004.

**Peterson, Gregory R.**, Professor of Philosophy, School of American and Global Studies, Graduate Faculty; B.A., University of Minnesota, 1988; M.A., Luther Seminary, 1990; Ph.D., University of Denver, 1996.

**Peterson, Meghan,** Assistant Director, First Year Advising Center, Wintrode Student Success Center; B.S., M.S., South Dakota State University, 2005.

**Pillatzki, Angela E.**, Associate Professor of Veterinary and Biomedical Sciences and Animal Disease Research and Diagnostic Laboratory, Graduate Faculty; B.S., University of Wyoming, 1991; D.V.M., Kansas State University, 1995; M.S., South Dakota State University, 2007.

**Pinto, Sharrel**, Hoch Family Endowed Professor for Community Pharmacy Practice and Department Head of Allied and Population Health; B.S., University of Bombay, 1997; M.S., The University of Toledo, 2001; Ph.D., University of Florida, 2004.

**Potts, Dale**, Associate Professor of History, School of American and Global Studies, Graduate Faculty; B.A., Kutztown University of PA, 1992; M.A., Penn State Harrisburg, 1997; Ph.D., University of Maine, Orono, 2007.

**Prairie, Douglas S.**, Instructor of Agricultural and Biosystems Engineering; B.S., South Dakota State University, 1997; M.S., Boise State University, 2004

**Prasad, Anamika**, Assistant Professor of Mechanical Engineering, Graduate Faculty; B.Tech., Indian Institute of Technology-Varanasi, 1997; M.S., Massachusetts Institute of Technology, 2003; Ph.D., 2007.

**Pravecek, Brandi**, Clinical Assistant Professor of Nursing; B.S.N., South Dakota State University, 1993; M.S.N., 2002; D.N.P., 2018.

**Prigge, William D.**, Professor of History, School of American and Global Studies; B.A., University of Minnesota-Duluth, 1994; M.A., University of Wisconsin-Eau Claire, 1997; Ph.D., Marquette University, 2005.

**Prout, Jason**, Instructor of Construction and Operations Management; B.S. Central Michigan, 1995; M.S. 1998.

**Quam, Erica**, Professional Academic Advisor, School of Communication and Journalism; B.S. South Dakota State University, 2010; M.S., 2013.

**Ragsdale, Chalon A.**, Professor of Music, School of Performing Arts; B.M.E., University of Oklahoma, 2001; M.M., University of Arkansas, 2003; D.M.A., Rutgers University, 2007.

**Rahman, Shafiqur,** Professor of Pharmaceutical Sciences, Graduate Faculty; B.S., Dhaka University, 1985; M.S., 1987; Ph.D., Memorial University of Newfoundland, 1995.

**Raina, Komal**, Associate Professor of Pharmaceutical Sciences and Haarberg Chair in Cancer Research; B.Pharm., Hamdard University, 1995; M. Pharm., Panjab University, 1997; Ph.D., Hamdard University, 2004.

**Ramos-García, María**, Professor of Spanish, School of American and Global Studies, Graduate Faculty; B.A., Universidad de Santiago de Compostela (Spain), 1991; M.A., Washington University, 1993; Ph.D., 1997.

**Ramsay-Seaner, Kristine**, Assistant Professor of Counseling and Human Development, School of Education, Counseling and Human Development, Graduate Faculty; B.S., University of South Alabama, 2011; M.S., 2013.

**Ray, Annette**, Instructor of Nursing; B.S.N., South Dakota State University, 1995; M.S.N., University of Phoenix, 2006.

**Raynie, Douglas**, Associate Professor and Department Head of Chemistry and Biochemistry, Department Head of Physics, Graduate Faculty; B.A., Augustana College, 1981; M.S., South Dakota State University, 1983; Ph.D., Brigham Young University, 1990.

**Redlin, Meredith**, Professor of Sociology and Rural Studies, School of Psychology, Sociology and Rural Studies, Graduate Faculty; B.A., Macalester College, 1979; M.A.L.S., Hamline University, 1993; Ph.D., University of Kentucky, 2000.

**Reese, Cheryl L.**, Senior Lecturer of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.A, University of Minnesota; M.S., 1995; Ph.D., South Dakota State University, 2009.

**Reichardt, Peter,** Instructor of Studio Art, School of Design; B.F.A. Cleveland Institute of Art, 2005; M.F.A. Washington State University, 2007.

**Reineke, Joshua**, Associate Professor of Pharmaceutical Sciences, Graduate Faculty; B.A. and B.S., Brown University, 2003; Ph.D., 2008.

**Rex, Brian**, Associate Professor and Department Head of Architecture, School of Design, Graduate Faculty; B.S., University of Texas, 1990; B.Arch., Carleton University (Canada), 1993; M.S., Columbia University, 1994.

**Reynolds, Paul D.**, Professor and Director of School of Performing Arts, Graduate Faculty; B.M.E., University of Kansas, 1985; M.M., Florida State University, 1986; D.M.A., University of Maryland, 1994.

**Robertson, Franklin**, Instructor of Journalism, School of Communication and Journalism; B.A., South Dakota State University, 1995; M.M.C., 2012.

**Robinette, Andrew**, Associate Professor of Music, School of Performing Arts; B.M., University of North Carolina at Greensboro, 1997; M.M., Temple University, 2005; D.M.A., University of South Carolina, 2013.

**Roiger, Trevor C.**, Assistant Professor of Athletic Training, School of Health and Consumer Sciences, Graduate Faculty; B.S., South Dakota State University, 1997; M.A., University of Minnesota, 1999; Ed.D., USD, 2009.

**Rolfes, Douglas P.,** Assistant Professor of Aerospace Studies, B.S., South Dakota State University, 2006.

**Rölz, Eckhard**, Professor of German, School of American and Global Studies, Graduate Faculty; B.A., Utah State University, 1994; M.A., University of North Carolina, 1996; Ph.D., 2000.

**Romsa, Bryan**, Assistant Professor of Sport and Recreation, School of Health and Consumer Sciences, Graduate Faculty; B.A., Concordia College, 2005; M.S., Minnesota State University, 2008; Ed.D., 2013.

**Romsa, Katelyn**, Assistant Professor of Counseling and Human Development, School of Education, Counseling and Human Development, Graduate Faculty; B.A., Concordia College, 2005; M.S., Minnesota State University, 2008; Ph.D., 2011.

**Roux, Kyle**, Adjunct Associate Professor; B.S., Emory University, 1998; Ph.D., University of Florida, 2004.

**Rovai, Maristela**, Assistant Professor of Dairy and Food Science, Extension Dairy Specialist, Graduate Faculty; D.V.M., Veterinary Medicine School of Fundacao de Ensino Octavio Bastos, Brazil, 1994; M.S., Universitat Autonoma de Barcelona, Spain, 1997; Ph.D., 2001.

**Roy, David P.**, Adjunct Professor of Geography, Graduate Faculty; B.S., University of Lancaster (United Kingdom), 1987; M.S., University of Edinburgh (United Kingdom), 1988; Ph.D., University of Cambridge (United Kingdom), 1993.

**Samuel, Ryan**, Assistant Professor of Animal Science, Graduate Faculty; B.S., University of Prince Edward Island, 2003; M.S., University of Alberta, 2008; Ph.D., 2011.

**Santos, Joseph M.**, Professor of Economics, Ness School of Management and Economics, Graduate Coordinator, Graduate Faculty; B.S., The College of New Jersey, 1990; M.A., Rutgers University, 1992; Ph.D., 1996.

**Saunders, Christopher**, Professor of Mathematics and Statistics, Graduate Faculty; B.S., California State University at Chico, 2000; M.S., University of Kentucky, 2002; Ph.D., University of Kentucky, 2006.

**Scaria, Joy**, Associate Professor of Veterinary and Biomedical Sciences and Animal Disease Research and Diagnostic Laboratory, Graduate Faculty; MPhil., University of Madras (India) 1999; Ph.D., Birla Institute of Technology and Science (India), 2006.

**Schaal, Daniel J**., Professor of Mathematics and Statistics, Graduate Faculty; B.S., South Dakota State University, 1982; M.S., 1988; Ph.D., University of Idaho, 1994.

**Schievelbein, Danielle M.**, Assistant Professor of Nursing; B.S., South Dakota State University, 2008; M.S., 2013; Ph.D., 2020.

**Schmidt, Karl J.**, Lecturer in History and Geography; B.A., University of South Florida, 1985; M.A., Florida State University, 1987; Ph.D., 1994.

**Schmit, Christopher G.**, Professor of Civil and Environmental Engineering, Director of Water and Environmental Engineering Research Center, Graduate Faculty; B.S., University of Wisconsin, 1991; M.S., Iowa State University, 1992; Ph.D., 1997.

**Schneider, Anna M.**, Instructor of Nursing; B.S., South Dakota State University 2013; M.S., 2018.

**Schomberg, Takara**, Instructor of Nursing; B.S.N., South Dakota State University, 2009; M.S.N., 2016.

**See, Pirita**, Instructor of Psychology, School of Psychology, Sociology and Rural Studies; B.A., Purdue, 2009; M.A., Miami University, 2011; Ph.D., 2014.

**Sehgal, Sunish K.**, Associate Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., Haryana Agricultural University, India, 1999; M.S., Punjab Agricultural University, India, 2001; Ph.D., Punjab Agricultural University, 2005.

**Seo, Junwon**, Associate Professor of Civil and Environmental Engineering, Graduate Faculty; B.S. Konyang University (South Korea), 2001; M.S. Yonsie University (South Korea), 2003 and M.S. The Georgia Instistute of Technology, 2006; Ph.D. The Pennsylvania State University, 2009.

**Serfling, Nathan,** Lecturer of English; B.A., South Dakota State University, 2001; M.A, 2006.

**Sexton, Peter**, Associate Professor of Agronomy, Horticulture, and Plant Science, Manager - SE Research Farm, Graduate Faculty; B.S., South Dakota State University, 1985; M.S., University of Florida, 1990; Ph.D., 1993.

**Sharafeldin, Tamer A.**, Assistant Professor of Veterinary Pathology, Veterinary and Biomedical Sciences and Animal Disease Research and Diagnostic Laboratory, Graduate Faculty; B.V.Sc., Zagazig University (Egypt), 2004; M.V.Sc., 2008; Ph.D., University of Minnesota, 2015.

**Shelsta, Corey**, Professor of Theatre, School of Performing Arts, Graduate Faculty; B.S., South Dakota State University, 1993, M.F.A., Wayne State University, 1996.

**Shin, Sung Yun**, Professor of Computer Science, Graduate Faculty; B.S., Kentucky State University, 1984; M.S., University of Wyoming, 1986, Ph.D., 1991.

**Shinn, Bonnie**, Lecturer of Counseling and Human Development, School of Education, Counseling and Human Development; B.S., South Dakota State University, 1998; M.S., Shippensburg, 2003.

**Shore, Jay**, Associate Professor of Chemistry and Biochemistry, Graduate Faculty; B.S., Oregon State University, 1986; Ph.D., University of Illinois, 1992.

**Silvernagel, Craig**, Associate Professor of Entrepreneurship, Ness School of Management and Economics; B.B.A., University of North Dakota, 1992; M.B.A., 1995; Ph.D., 2014.

**Smart, Alexander**, Professor and Assistant Department Head of Natural Resource Management, Graduate Faculty; B.S., University of Wisconsin, 1989; M.S., 1992; Ph.D., University of Nebraska, 2001.

**Smith, Samuel**, Lecturer of Biology and Microbiology; B.S., Washburn University, 2009; M.S., Portland State University, 2012.

**Smith, Sharon**, Associate Professor of English, Graduate Faculty; B.A., Augsburg College, 1991; M.A., University of Georgia, 1996; Ph.D., University of Illinois-Chicago, 2007.

**Smith, Zachary**, Assistant Professor of Animal Science; B.S., Texas Tech University, 2012; M.S., South Dakota State University, 2015; Ph.D., Texas Tech University, 2018.

**Snyder, Stephen**, Instructor of English; B.A., South Dakota State University, 2008; M.A., 2014.

**Solberg, Heather**, Instructor of Advertising, School of Communication and Journalism; B.S., Florida Atlantic University, 2000; M.B.A., University of South Dakota, 2002.

**Spear, Debra J.**, Professor of Psychology, School of Psychology, Sociology and Rural Studies, Graduate Faculty; B.S., University of Maryland, 1977; M.A., University of North Carolina, 1980; Ph.D., 1987.

**Speirs, Lane**, Coordinator of Recruiting and Academic Services for Dairy and Food Science Department; B.S., South Dakota State University, 2018; M.Ed., 2020.

**Spitz, Maria C.**, Associate Professor of Modern Languages; B.A., Monmouth College, 1987; M.A., Washington University, 1992; Ph.D., 2001.

**Steinlicht, Carrie,** Senior Lecturer of Construction and Operations Management, Graduate Faculty; B.S., Michigan Technological University, 1990; M.A., Central Michigan University, 1993; Ph.D., Cappella University, 2010.

**Stemwedel, Mark**, Senior Lecturer of Studio Art, School of Design; B.S., South Dakota State University, 1997; M.F.A., University of South Dakota, 2008.

**Stenvig, Thomas E.**, Associate Professor of Nursing, Graduate Faculty; B.S.N., Wayne State University, 1971; M.P.H., University of Hawaii, 1976; M.S., South Dakota State University, 1991; Ph.D., University of Wisconsin, 2001.

**Stevens, Mark**, Assistant Professor of Music, School of Performing Arts; B.A., Whitworth University, 2006; M.M., University of Nebraska-Lincoln, 2008; M.A., University of Oregon, 2017; D.M.A., University of Oregon, 2017.

**St-Pierre, Benoit**, Assistant Professor of Animal Science, Graduate Faculty; B.S., Universite Laval, 1992; M.S., Universite Laval, 1994; Ph.D., University of Toronto, 2002.

**Strain, Joey D.**, Professor of Pharmacy Practice; B.S., South Dakota State University, 2000; Pharm.D., 2002.

**Stremmel, Andrew J**., Professor of Teaching, Learning and Leadership, School of Education, Counseling and Human Development, Graduate Faculty; B.A., Pennsylvania State University, 1978; M.S., Purdue University, 1981; Ph.D., 1989.

**Strenge, Sanna J.**, Professional Academic Advisor, Wintrode Student Success Center; B.A., Augustana University, 2013; M.Ed., South Dakota State University, 2015.

**Stromer, Alyssa**, Instructor of Nursing; B.S.N., South Dakota State University, 2008; M.S.N., 2017.

**Stuckey, Kristin**, Program Coordinator and Professional Academic Advisor, Agricultural and Biosystems Engineering; B.S., South Dakota State University, 2020; M.S., 2021.

**Subramanian, Senthil**, Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., Annamali University (India), 1992; M.S., Tamil Nadu Agricultural University (India), 1995; Ph.D., 1994.

**Sullivan, Miranda**, Instructor, Aviation Program; B.S., South Dakota State University, 2018; M.Ed., 2020.

**Sun, Pei-Yu**, Assistant Professor of Accounting, Ness School of Management and Economics; B.A., Feng-Chia University (Taiwan), 1995; M.B.A., Western Kentucky University, 2006; Ph.D., Louisiana State University, 2015.

**Suryanarayanan, Siddharth**, Professor and Department Head of Electrical Engineering and Computer Science; B.E., Madras University, 2000; M.S., Arizona State University, 2001; Ph.D., 2004.

**Taggart, Kari**, Assistant Professor of Pharmacy Practice; B.S., South Dakota State University, 2003; Pharm.D., 2005.

**Tan, Songxin**, Associate Professor of Electrical Engineering, Graduate Faculty; B.S., Sichnan University, 1994; M.S., 1997; Ph.D., University of Nebraska, 2003.

**Tazarv, Mostafa**, Associate Professor of Civil and Environmental Engineering, Graduate Faculty; B.S., University of Tabriz (Iran), 2006; M.S. Sharif University of Technology (Iran), 2009; Ph.D., University of Nevada, 2014.

**Thiex, Natalie W.**, Assistant Professor of Biology and Microbiology, Graduate Faculty; B.A., Concordia College, 1999; M.P.H., University of Michigan Ann Arbor, 2002; Ph.D. University of Michigan Ann Arbor, 2008.

**Thompson, Marjoanne**, Coordinator/Academic Advisor/Lecturer of Biology and Microbiology; B.S., South Dakota State University, 2007; M.ED., 2011.

**Threadgold, Lee**, Instructor of Construction and Operations Management; B.S., Dakota State University, 1980; M.S., 2010.

**Ting, Francis**, Professor of Civil and Environmental Engineering, Graduate Faculty; B.S., University of Manchester (Great Britain), 1982; M.S., California Institute of Technology, 1983; Ph.D., 1989.

**Tkach, Julie L.**, Lecturer of Hospitality Management, School of Health and Consumer Sciences; B.S., Michigan State University, 1994; M.S., 2005; Ph.D., 2013.

**Tofte, Elizabeth**, Assistant Professor of Landscape Architecture, School of Design; BSLA Washington State University, 1979; B. Arch, University of Idaho, 1987; MRP, Washington State University, 1986; Ph.D., University of Edinburgh, 2015.

**Tonkoski, Reinaldo**, Associate Professor of Electrical Engineering, Graduate Faculty; B.S., Pontifícia Universidade Católica do Rio Grande do Sul (Brazil), 2003; M.S., 2006; PhD., Concordia University (Canada), 2011.

**Toronto, Emily,** Professor of Music, School of Performing Arts; B.M., Brigham Young University, 1997; M.M., University of Michigan, 1999; D.M.A., University of Michigan, 2003.

**Trenhaile, Jay**, Professor of Counseling and Human Development, Director of the School of Education, Counseling and Human Development, Graduate Faculty; B.S., Dakota State University, 1986; M.S., Kansas State University, 1989; M.S., South Dakota State University, 1993; Ed.D., University of South Dakota, 1996.

**Trooien, Todd P.**, Professor of Agricultural and Biosystems Engineering, Graduate Faculty; B.S., South Dakota State University, 1983; M.S., 1985; Ph.D., Colorado State University, 1988.

**Tsakiridis, George**, Lecturer of Philosophy and Religion, School of American and Global Studies; B.S., Iowa State University, 1998; Th.M., Dallas Theological Seminary, 2002; Th.M., Lutheran School of Theology at Chicago, 2005; Ph.D., 2009.

**Tummala, Hemachand**, Professor of Pharmaceutical Sciences, Graduate Faculty; B.Pharm., Kakatiya University (India), 1994; M.S., Punjab University (India), 1997; Ph.D., National Institute of Immunology (India), 2002.

**Turnipseed, E. Brent**, Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., Mississippi State University, 1984; M.S., 1987; Ph.D., 1993.

**Twedt, Michael P.**, Senior Lecturer in Mechanical Engineering and Program Engineer; B.S., South Dakota State University, 1992; M.S. 1994.

**Uilk, Nicholas**, Instructor of Agricultural and Biosystems Engineering; B.S., South Dakota State University, 2008; M.S., 2011.

**Ujah, Nacasius**, Associate Professor of Corporate Finance, Ness School of Management and Economics; B.B.A., University of Central Arkansas, 2003; M.B.A., 2006; Ph.D., Texas A&M Intl. University, 2013.

**Ulvestad, Erin L.,** Lecturer of Mathematics and Statistics; B.S., South Dakota State University, 2004; M.S., 2006.

**Underwood, Keith**, Associate Professor of Animal Science, Graduate Faculty; B.S., Texas Tech University, 2002; M.S., University of Wyoming, 2007; Ph.D., 2008.

**Van Benschoten, Elijah**, Instructor of Graphic Design, School of Design; B.F.A., Siena Heights University, 2003; M.F.A., Syracuse University, 2006.

**Van der Sluis, Evert**, Professor of Agricultural Economics, Ness School of Management and Economics, Graduate Faculty; B.S., Hogere Landbouwschool (Leeuwarden, The Netherlands), 1982; M.S., Iowa State University, 1988; Ph.D., University of Minnesota, 1993.

**Van Gilder, Deidra J.**, Associate Professor of Pharmacy Practice; B.S., South Dakota State University, 2000; Pharm.D., 2002.

**Van Klompenburg, Emily**, Assistant Professor of Pharmacy Practice; B.S., South Dakota State University, 2013; Pharm.D., 2015.

**VanDamme, Jill**, Instructor of Physical Education Teacher Education, School of Health and Consumer Sciences; B.A., Northern Michigan University, 2001; M.S., Emporia State University, 2010.

**Varenhorst, Adam J.**, Assistant Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., Briar Cliff University, 2009; M.S., Iowa State University 2011; Ph.D., 2015.

**Varilek, Brandon**, Assistant Professor in Nursing; B.A.N., Augustana University, 2013; Ph.D., South Dakota State University, 2020.

**Veire, Camilla**, Coordinator and Academic Advisor, College of Nursing; B.S., University of Wisconsin, 1985; M.S., South Dakota State University, 1992; M.B.A., University of Sioux Falls, 2004.

**Venhuizen, Lynda**, Lecturer of Teaching, Learning and Leadership, School of Education, Counseling and Human Development; B.S., University of South Dakota, 1991; M.S., South Dakota State University, 1998.

**Verley, Patrick**, Instructor of Nursing; B.S.N., Dakota Wesleyan University, 2016; M.S.N., University of Phoenix, 2019.

**Vermeer, Paola**, Adjunct Assistant Professor of Chemistry and Biochemistry; B.A., Brandeis University, 1991; M.A., Columbia University, 1994; M.Phil., Columbia University, 1996; Ph.D., Columbia University, 1998.

**Versteeg, John**, Lecturer of Mechanical Engineering; B.S., South Dakota State University, 2011; M.S., 2013.

**Vestal, Donald**, Associate Professor of Mathematics and Statistics, Graduate Faculty; B.S., Colorado State University, 1990; M.S., 1992; Ph.D., University of Colorado- Boulder, 1998.

**Vestal, Sharon**, Associate Professor of Mathematics and Statistics, Graduate Faculty; B.A., University of South Dakota, 1992; M.A., 1994; Ph.D., University of Colorado, 2000.

**Vitiello, Peter**, Adjunct Assistant Professor of Chemistry and Biochemistry; B.S., Lafayette College, 2002; Ph.D., University of Rochester School of Medicine and Dentistry, 2007.

**Vockrodt, Mary L.**, Lecturer of Nursing; B.S., South Dakota State University, 1986, M.S., 2008.

**Vollan, Charles A.**, Associate Professor of History, School of American and Global Studies, Graduate Faculty; B.A., Hiram College, 1991; M.A., University of Tulsa, 1994; Ph.D., University of Nebraska-Lincoln, 2004.

**Vondruska, Judy**, Senior Lecturer in Physics; B.S., University of Nebraska, 1986; M.S., University of Arizona, 1992; Ph.D., University of Nebraska-Lincoln, 2017.

**Voss, Jo**, Associate Professor of Nursing, Graduate Faculty; B.S.N., Winona State University, 1980; M.S.N., University of Minnesota, 1993; Ph.D., University of Nebraska, 2003.

**Vroman, Isaac**, Instructor of Biology and Microbiology; B.S., University of Wisconsin-La Crosse, 2014; M.Sc., University of Dundee (UK), 2015.

**Walker, Julie A.**, Extension Beef Specialist and Professor of Animal Science, Graduate Faculty; B.S., North Dakota State University, 1983; M.S., Purdue University, 1990; Ph.D., University of Kentucky, 1995.

**Wallace, Jacob E.**, Associate Professor of Music, School of Performing Arts; B.A., University of Nebraska – Lincoln, 2004; M.M., Baylor University, 2006; D.M.A., University of Georgia, 2009.

**Wallace, Scott**, Professor of Studio Art, School of Design, Graduate Faculty; B.F.A., Northern Illinois University, 1981; M.A., 1983; M.F.A., University of Arizona, 1985.

**Walsh, Michael**, Associate Professor of Music, School of Performing Arts; B.M., University of Miami, 1998; M.M., 2000; D.M.A., University of Kansas, 2008.

**Walter, Chanda L.**, Professional Academic Advisor, College of Education and Human Sciences; B.S., South Dakota State University, 2007; M.S., 2010.

**Wang, Tong**, Associate Professor and SDSU Extension Advanced Production Specialist, Ness School of Management and Economics; B.S., Shandong Institute of Light Industry (China), 2000; M.S., Tsinghua University (China), 2006; Ph.D., Iowa State University, 2012.

**Wang, Xiuqing**, Professor of Biology and Microbiology, Graduate Faculty; D.V.M., Inner Mongolia College of Agriculture and Animal Husbandry (China), 1988; M.S., 1991; Ph.D., University of Connecticut, 2000.

**Wang, Zhiguang**, Professor of Finance, Ness School of Management and Economics, Graduate Faculty; B.S., Jilin University (China), 2000; M.A., Shanghai University of Finance and Economics (China), 2004; M.A., Florida International University, 2008; Ph.D., 2009.

**Warren, Randall F.,** Lecturer of Biology and Microbiology; B.S., University of Minnesota, 1993; Ph.D., Indiana University, 1999.

**Watrel, Robert (Bob) H.,** Associate Professor and Department Head of Geography and Geospatial Sciences, Graduate Faculty; B.S., University of North Dakota, 1989; M.A., University of Nebraska, 1993; Ph.D., 2001.

**Watson, Megan**, Instructor of Nursing; B.S.N., South Dakota State University, 2012; M.S.N., 2018.

**Wehbe, Nadim I.**, John M. Hanson Professor and Department Head of Civil and Environmental Engineering, Graduate Faculty; B.E., American University of Beirut (Lebanon), 1980; M.S., University of Nevada, 1992; Ph.D., 1997.

**Wei, Lin**, Associate Professor of Agricultural and Biosystems Engineering, Graduate Faculty; B.S., China Agriculture University, 1986; M.S., Mississippi State University, 2005; Ph.D., 2009.

**Weidauer, Lee**, Assistant Professor of Exercise Science, School of Health and Consumer Sciences, Graduate Faculty, Ethel Austin Martin Program in Human Nutrition and Health and Nutritional Sciences; B.S., South Dakota State University, 2007; M.S., 2009; Ph.D., 2012.

**Weist, Paul**, Instructor of Computer Science; B.B.A, Dakota State University, 2002, M.S. 2005.

**Westwick, Joshua**, Associate Professor of Communication Studies and Director of School of Communication and Journalism, Graduate Faculty; B.S., South Dakota State University, 2001; M.S., 2003; Ed.D., University of South Dakota, 2012.

**White, George**, Professor of Geography and Geospatial Sciences, Graduate Faculty; B.A., California State University, 1987; M.A., University of Oregon, 1990; Ph.D., 1994.

**White, Peter (Troy)**, Assistant Professor of Teaching, Learning and Leadership, School of Education, Counseling and Human Development, Graduate Faculty; B.S., University of Idaho, 2001; M.S., 2002; Ph.D., 2015.

**Wicks, Molly**, Instructor of Studio Art, School of Design; B.F.A., University of Minnesota, 2007; M.F.A., Washington State University, 2011.

**Wilburn, Lonnie,** Associate Professor of Theatre, School of Performing Arts, Graduate Faculty; B.A. Morehead State University, KY, 2002; M.F.A. Michigan State University, 2007.

**Willand-Charnley, Rachel**, Assistant Professor of Chemistry and Biochemistry, Graduate Faculty; B.S., Creighton University, 2009; Ph.D., University of Nebraska – Lincoln, 2014.

**Williams, Amanda**, Professional Academic Advisor, School of Performing Arts; B.A., University of Sioux Falls, 2010; M.M., University of South Dakota, 2012.

**Williams, Marla**, Lecturer of Chemistry and Biochemistry; B.S., South Dakota State University, 2000; M.S., 2003; Ph.D., 2008.

**Willman, Dallas**, Instructor of Interior Design, School of Design; B.S., South Dakota State University, 2009; M.S., 2011.

**Wilson, Alison**, Assistant Professor of Teaching, Learning and Leadership, School of Education, Counseling and Human Development, Graduate Faculty; B.A., University of Central Arkansas, 2008; M.Ed., University of Oklahoma, 2015; Ph.D., 2020.

**Wilson, Zach**, Clinical Instructor of Respiratory Care; A.S., Dakota State University, 2015.

**Wiltse, David**, Associate Professor of Political Science, School of American and Global Studies, Graduate Faculty; B.A., Montana State University, 1993; M.A., California State University, 1996; Ph.D., University of Massachusetts, 2006.

**Wiltse, Evren Çelik**, Associate Professor of Political Science, School of American and Global Studies, Graduate Faculty; B.A., Boğaziçi University (Turkey), 1997; M.S., 2000; Ph.D. University of Massachusetts, 2010.

**Wingate, Steven**, Associate Professor of English, Graduate Faculty; B.A., University of Massachusetts (Boston), 1987; MFA, Florida State University, 1991.

**Winterboer, Venita J.**, Lecturer of Nursing; B.S., South Dakota State University, 1980; M.S., 1992.

**Wipf, Darin J.**, Instructor of Accounting, Ness School of Management and Economics; B.A., South Dakota State University, 1993; M.P.A., University of South Dakota, 1997.

**Won, Kwanghee**, Assistant Professor of Computer Science; B.S., Kyungpook National University (South Korea), 2005; M.S., 2007; Ph.D., 2013.

**Wood, William**, Associate Professor of Theatre, School of Performing Arts, Graduate Faculty; B.F.A., University of South Dakota, 1999; M.F.A., Minnesota State University, 2003.

**Wortman, Abby**, Clinical Instructor of Respiratory Care; A.S. Dakota State University, 2009; B.S., 2012.

**Wright, Cody L.**, Professor of Animal Science, Graduate Faculty; B.S., South Dakota State University, 1994; M.S., Kansas State University, 1996; Ph.D., North Carolina State University, 2000.

**Wright, David,** Professor and Department Head of Agronomy, Horticulture, and Plant Science; A.A., Ellsworth Community College, 1980; B.S., Iowa State University, 1982; M.S., 1986; Ph.D., Kansas State University, 1991.

**Wrightson, Graham**, Associate Professor of History, School of American and Global Studies; M.A., Cambridge University - Fitzwilliam College, 2004; M.A., University of Calgary, 2006; Ph.D., 2012.

**Wu, Jixiang**, Professor of Agronomy, Horticulture, and Plant Science, Graduate Faculty; B.S., Zhejiang Agricultural University (China), 1991; M.S., 1994; Ph.D., Zhejiang University (China), 2001; M.S., Mississippi State University, 2003; Ph.D., 2003.

**Wu, Yajun**, Assistant Department Head and Professor of Biology and Microbiology, Graduate Faculty; B.S., Nanjing Normal University (China), 1983; M.S., Southern Illinois University-Edwards, 1991; Ph.D. University of Missouri-Columbia, 1996.

**Xian, Xiaojun**, Assistant Professor of Electrical Engineering; B.S., Peking University (China), 2004; Ph.D., 2009.

**Xu, Fang**, Instructor of Architecture, School of Design; B.Arch., Tongji University, 2001; M.Arch., 2004; Ph.D., University of Illinois at Urbana-Champaign, 2013.

**Xu, Lan**, Professor of Natural Resource Management, Graduate Faculty; B.S., Shanxi University, 1985; M.S., Institute of Applied Ecology of Chinese Academy of Sciences, 1988; Ph.D., North Dakota State University, 1998.

**Xu, Sutie**, Assistant Professor of Agronomy, Horticulture and Plant Science, Graduate Faculty; B.S., Shandong Agricultural University, China, 2007; M.S., Chinese Academy of Sciences, China, 2011; Ph.D., University of Florida, 2014.

**Yan, Lin,** Assistant Research Professor, Geospatial Sciences Center of Excellence; B.S., Tongji University, 2002; M.S., Tongji University, 2005; Ph.D., Ohio State University, 2011.

**Yang, Xufei**, Assistant Professor of Agricultural and Biosystems Engineering; B.Eng., Tsinghua University, 2000; M.Eng., 2002; Ph.D., University of Illinois at Urbana-Champaign, 2010.

**Yen, Yang**, Professor of Biology and Microbiology, Graduate Faculty; B.S., Sichuan Teachers University, 1978; M.S., Nanjing Agricultural University, 1986; Ph.D., University of Missouri, 1989.

**Yonce, Tammy Evans**, Associate Professor of Music, School of Performing Arts; B.M., Kennesaw State University, 2003; M.M., Indiana University, 2005; D.M.A., University of Georgia, 2010.

**Yordanova, Albena Y.**, Senior Lecturer of Construction and Operations Management; B.S. Institute of Architecture and Civil Engineering (Bulgaria), 1984; M.Arch, 1991; M.A. University of Missouri-Columbia, 1998; D.T., University of Northern Iowa, 2016.

**Young, Alan,** Professor of Veterinary and Biomedical Sciences, Graduate Faculty; B.S., University of Toronto (Canada), 1989; Ph.D., 1994.

**Zacher, Renee**, Instructor of Nursing; B.S.N., South Dakota State University, 1994; M.S.N., Chamberlain College of Nursing, 2016.

**Zavaleta Cheek, Jennifer**, Assistant Professor of Natural Resource Management, Graduate Faculty; B.A., Claremont McKenna College, 2010; M.S., Texas Tech University, 2012; Ph.D., University of Michigan, 2019.

**Zhang, Cheng**, Associate Professor of Chemistry and Biochemistry, Graduate Faculty; B.S., Wu Han University, China, 1987; Ph.D., University of Southern California, 1999.

**Zhang, Hankui**, Assistant Professor of Geography and Geospatial Sciences and Scientist of Geospatial Sciences Center of Excellence; B.S., Zhejiang University, 2007; M.S., 2010; Ph.D., The Chinese University of Hong Kong, 2013.

**Zhang, Weiwei**, Census Data Center Director, Associate Professor of Sociology and Rural Studies, School of Psychology, Sociology and Rural Studies, Graduate Faculty; B.A., Suzhou University, China, 2001; M.A., Bowling Green State University, 2006; Ph.D., Brown University, 2014.

**Zhang, Xiaoyang**, Senior Research Scientist at the Geospatial Sciences Center of Excellence, Professor of Geography and Geospatial Sciences, Graduate Faculty; B.S., Peking University (China), 1984; M.S., Chinese Academy of Sciences (China), 1991; Ph.D., King's College London (United Kingdom), 1999.

**Zhou, Ruanbao**, Professor of Biology and Microbiology, Graduate Faculty; B.S., Anhui Normal University (China), 1985; M.S., 1988; Ph.D., Peking University (China), 1997.

**Zhou, Yue**, Assistant Professor of Electrical Engineering; B.S., Nanjing University, Nanjing (China), 1984; M.S., 2011; Ph.D., The Pennsylvania State University, 2015.

**Zwart, Mary Beth**, Assistant Professor of Athletic Training, School of Health and Consumer Sciences, Graduate Faculty; B.S., University of Wisconsin-La Crosse, 1999; M.S., South Dakota State University, 2001; Ed.D., University of South Dakota, 2009.

**Zweifel, Alyssa**, Health Care Simulation Center Director, Assistant Professor of Nursing; A.A., Dakota Wesleyan University, 2003; B.S., South Dakota State University, 2008; M.S., 2013.

## Emeriti Faculty

**Aamot, Mary E.**, Professor Emerita of Cooperative Extension Service; B.A., Mt. Marty College, 1965; M.A., South Dakota State University, 1976; Ed.D., University of South Dakota, 1985.

**Adelaine, Michael F.**, Vice President for Technology and Safety and Professor Emeritus, Agricultural Engineering; B.S., Michigan State University, 1974; M.S., University of Nebraska, 1985; Ph.D., 1989.

**Amiotte, Lowell**, Associate Professor Emeritus of Education and Counseling; B.S., Black Hills State University, 1964; M.A., University of South Dakota, 1971.

**Andrawis, Madeleine Y.**, Professor of Emerita of Electrical Engineering, Graduate Faculty; B.S., Cairo University (Egypt), 1977; M.S., South Dakota State University, 1983; Ph.D., Virginia Polytechnic Institute and State University, 1991.

**Arnold, Mary P.**, Professor Emerita of Journalism and Mass Communication; B.A., Dakota Wesleyan University, 1969; M.A., University of South Dakota, 1973; Ph.D., University of Iowa, 1994.

**Ayers, Clara J.**, Professor Emerita of Mathematics; B.S., Minot State College, 1958; M.A., University of Minnesota, 1962.

**Baer, Robert J.**, Professor Emeritus of Dairy Science, Graduate Faculty; B.S., University of Georgia, 1977; M.S., 1979; Ph.D., 1983.

**Bahr, AnnMarie B.**, Professor Emerita of Religion, Graduate Faculty; B.A., Lawrence University, 1972; M.A., Stanford University, 1975; Ph.D., Temple University, 1989.

**Baker, Philip R.**, Professor Emeritus of Spanish, Graduate Faculty; B.A., University of Connecticut, 1959; M.A., Middlebury College, 1965; M.A.T., University of Hartford, 1968; Ph.D., Florida State University, 1973.

**Bassett, Kurt D.**, Professor and Department Head Emeritus of Mechanical Engineering, Graduate Faculty; B.S., South Dakota State University, 1981; M.S., 1983; Ph.D., North Dakota State University, 1996.

**Beattie, Patricia K.**, Professor Emerita of Modern Languages; B.S., South Dakota State University, 1963; M.A., Middlebury College, 1964; Ph.D., University of Minnesota, 1983.

**Bell, Julie A.**, Assistant Professor Emerita of Consumer Sciences; B.S., South Dakota State University, 1970; M.S., 1976.

**Bell, Rodney E.**, Professor Emeritus of History, Graduate Faculty; B.S., Jamestown College, 1955; M.A., University of Michigan, 1956; Ph.D., 1975.

**Berg, Donald J.**, Professor Emeritus of Geography, Graduate Faculty; B.A., North Dakota State University, 1964; M.A., 1966; M.A., University of California, 1971; Ph.D., 1976.

**Berry, Jr., Charles R.**, Professor Emeritus of Wildlife and Fisheries Sciences, Graduate Faculty; B.S., Randolph-Macon College, 1967; M.S., 1970; Ph.D., Virginia Polytechnic Institute and State University, 1976.

**Bielfeldt, Dennis D.**, Professor Emeritus of Philosophy and Religion; B.S., South Dakota State University, 1977; M.A., University of Iowa, 1984; Ph.D., 1987.

**Booher, James M.**, Professor Emeritus of Health, Physical Education, and Recreation, Graduate Faculty; B.A., Nebraska Wesleyan University, 1965; M.S., South Dakota State University, 1969; Ph.D., University of Utah, 1976.

**Brandt, Bruce E.**, Professor Emeritus of English; B.A., University of Denver, 1969; M.A., 1971; Ph.D., Harvard University, 1977.

**Branum, Allen R.**, Professor Emeritus of Psychology; B.S., Montana State University, 1966; M.A., University of Montana, 1968; Ph.D., 1971.

**Brown, Lewis F.**, Dean and Professor Emeritus of the Jerome J. Lohr College of Engineering, Graduate Faculty; B.S., South Dakota State University, 1984; M.S., Iowa State University, 1986; Ph.D., 1988.

**Brown, Michael L.**, Professor Emeritus of Fisheries Science, Graduate Faculty; B.S., Arkansas Technical University, 1986; M.S., Texas A&M University, 1989; Ph.D., 1993.

**Buchenau, George W.**, Professor of Plant Science Emeritus; B.S., New Mexico State University, 1954; M.S., 1955; Ph.D., Iowa State University, 1960.

**Burns, Robert V.**, Professor Emeritus of Political Science and Dean Emeritus of the Honors College, Graduate Faculty; B.S., South Dakota State University, 1964; M.A., University of Missouri, 1966; Ph.D., 1973.

**Canaan, Charles W.**, Professor Emeritus of Music; B.S., California State University, 1965; M.A., Western Michigan University, 1973; D.M.A., Arizona State University, 1986.

**Cardenas, Karen**, Professor Emerita of Spanish; B.A., Grinnell College, 1965; M.A., University of Kansas, 1970; Ph.D., 1973.

**Carlson, C. Gregg**, Professor Emeritus of Plant Science, Graduate Faculty; B.S., Western Illinois University, 1969; M.S., South Dakota State University, 1972; Ph.D., 1978.

**Carson, Paula P.**, Associate Professor Emerita of Nursing, Graduate Faculty; B.S., South Dakota State University, 1975; M.S.N., University of Minnesota, 1985; Ph.D., University of Arizona, 1992.

**Cecil, Charles F.**, Instructor Emeritus of Journalism and Mass Communication; B.S., South Dakota State University, 1959; M.A., 1970.

**Chappell, Gary S.**, Professor and Head of Pharmaceutical Sciences Emeritus; B.S., Ohio State University, 1963; Ph.D., University of Kansas, 1968.

**Chicoine, David L.**, Professor Emeritus of Economics and President Emeritus of South Dakota State University; B.S., South Dakota State University, 1969; M.S., University of Delaware, 1971; M.A., Western Illinois University, 1978; Ph.D., University of Illinois, 1979.

**Chu, Shu-Tung, P.E.**, Professor Emeritus of Agricultural and Biosystems Engineering; B.S., National Taiwan University, 1956; M.S., University of Minnesota, 1960; Ph.D., 1966.

**Clague, Carolyn L.**, Associate Professor Emerita of Extension Youth Development/4-H Specialist; B.A., South Dakota State University, 1974; M.Ed., 1975; Ed.D., University of South Dakota, 2000.

**Clever, Charles C.**, Associate Professor Emeritus of Mathematics; B.S., Grove City College, 1961; M.A., University of Kentucky, 1965.

**Colson, John F.**, Professor Emeritus of Music; E.M.E., University of Iowa, 1955; M.A., 1956.

**Corbett, Keith W.**, Dean and Professor Emeritus of University College; B.S., South Dakota State University, 1976; M.Ed., 1987; Ed.D., University of South Dakota, 2001.

**Craig, Gloria P.**, Professor Emerita of Nursing; B.S.N., Buena Vista College, 1989; M.S.N., Drake University, 1993; Ed.S., 1996; Ed.D., 1997.

**Crain, David A.**, Professor Emeritus of History, Graduate Faculty; B.A., Pittsburgh State University, 1960; M.A., George Washington University, 1962; Ph.D. Indiana University, 1972.

**Crews, Georgia W.**, Associate Emeritus Professor of Nutrition, Food Science and Hospitality, Graduate Faculty; B.S., Middle Tennessee State University, 1968; M.S., University of Tennessee, 1970; Ph.D., Kansas State University, 2000.

**Crews, Michael G.**, Professor Emeritus of Nutrition, Food Science & Hospitality, Graduate Faculty; B.S., Virginia Polytechnic Institute and State University, 1972; Ph.D., 1978.

**Cumber, Carol J.**, Professor Emerita of Economics; B.A., North Dakota State University, 1979; M.B.A., 1984; Ph.D., South Dakota State University, 1994.

**Danker, Kathleen A.**, Professor Emerita of English; B.A., University of Nebraska, 1971; M.A., 1974; Ph.D., 1985.

**DeBoer, Darrell W.**, Professor Emeritus of Agriculture and Biosystems Engineering, Graduate Faculty; B.S., Iowa State University, 1963; M.S., 1964; Ph.D., 1969.

**DeBoer, Delvin E.**, Professor Emeritus of Civil and Environmental Engineering, Graduate Faculty; B.S., South Dakota State University, 1978; M.S., 1980; Ph.D., Iowa State University, 1990.

**Delfanian, Fereidoon**, Professor Emeritus of Mechanical Engineering, Graduate Faculty; B.S., South Dakota State University, 1977; M.S., 1980; Ph.D., North Dakota State University, 1995.

**Dieter, Charles**, Professor Emeritus of Natural Resource Management, Graduate Faculty; B.S., Concordia Teachers College, 1977; M.S., South Dakota State University, 1987; Ph.D., 1993.

**Dobbs, Thomas L.**, Professor Emeritus of Economics, Graduate Faculty; B.S., South Dakota State University, 1965; Ph.D., University of Maryland, 1969.

**Donovan, Kathleen**, Professor Emerita of English; B.A., Spalding College, 1968; M.A., University of Nebraska, 1988; Ph.D., University of Arizona, 1994.

**Doolittle, James J.**, Professor Emeritus of Soil Science; B.S., Purdue University, 1982; M.S., Texas A&M University, 1986; Ph.D., 1991.

**Duffey, George H.**, Professor Emeritus of Physics; B.S., Cornell College, 1942; M.A., Princeton University, 1944; Ph.D., 1945.

**Dwivedi, Chandradhar**, Distinguished Professor and Department Head Emeritus of Pharmaceutical Sciences, Graduate Faculty; B.S., Gorakhpur University, 1964; M.S., 1966; Ph.D., Lucknow University, 1972.

**Dybing, C. Dean**, Professor of Plant Science Emeritus; B.S., Colorado State University, 1953; M.S., 1955; Ph.D., University of California, 1959.

**Edeburn, Carl**, Professor Emeritus of Education and Counseling, Graduate Faculty; B.S., St. Cloud State University, 1963; M.A., University of Minnesota, 1969; Ph.D., University of North Dakota, 1973.

**Edie, Richard**, Professor Emeritus of Visual Arts; B.F.A., Kansas City Art Institute, 1951; M.F.A., University of Kansas, 1956.

**Ellerbruch, Virgil G.**, Dean and Professor Emeritus of Electrical Engineering, Graduate Faculty; B.S., University of Wyoming, 1960; M.S., 1961; Ph.D., 1969.

**Emerick, Royce J.**, Professor Emeritus of Chemistry and Biochemistry, Graduate Faculty; B.S., Oklahoma State University, 1952; M.S., University of Wisconsin, 1955; Ph.D., 1957.

**Enevoldsen, Bernadine L.**, Professor Emerita of Consumer Affairs, Graduate Faculty; B.S., South Dakota State University, 1964; M.S., 1986; Ph.D., University of Minnesota, 1993.

**Evans, David A.**, Professor Emeritus of English, Graduate Faculty; B.A., Morningside College, 1962; M.A., University of Iowa, 1964; M.F.A., University of Arkansas, 1976.

**Evenson, Donald P.**, Distinguished Professor Emeritus of Biology and Microbiology, Graduate Faculty; B.A., Augustana College, 1964; Ph.D., University of Colorado, 1968.

**Everett, V. Duane**, Professor Emeritus of Education; B.S., University of Nebraska, 1953; M.S., 1962; Ed.D., 1966.

**Evers, Norman P.**, Instructor Emeritus of Horticulture, Forestry, Landscape and Parks, 1963, 1982; B.S., South Dakota State University, 1959.

**Farver, Debra K.**, Professor Emerita of Pharmacy Practice; Pharm.D., University of Nebraska, 1983.

**Fausti, Scott W.**, Professor Emeritus of Economics; B.A., North Dakota State University, 1986; M.S., University of Illinois, 1988; Ph.D., 1991.

**Fischer, Janet**, Professor Emeritus of Pharmacy Practice; Pharm.D., Creighton University, 1986.

**Flake, Lester D.**, Distinguished Professor Emeritus of Wildlife and Fisheries Sciences, Graduate Faculty; B.S., Brigham Young University, 1965; M.S., 1966; Ph.D., Washington State University, 1971.

**Fleming, Mary J.**, Emeritus Extension EFNEP Coordinator/Assistant Professor of Nutrition, Food Science and Hospitality; B.S., South Dakota State University, 1958; M.S., 1974.

**Foland, Kay L.**, Professor Emerita of Nursing, Graduate Faculty; B.S., South Dakota State University, 1980; M.S.N., University of Nebraska, 1982; Ph.D., University of Texas, 1989.

**Forsyth, Harry L.**, Professor Emeritus of HPER; B.S., South Dakota State University, 1951; M.S., 1956; D.P.Ed., Springfield College, 1970.

**Francis, David H.**, Professor Emeritus of Veterinary and Biomedical Sciences; B.S., Brigham Young University, 1971; M.S., 1974; Ph.D., University of Missouri, 1978.

**Froehlich, Don P.**, Professor Emeritus of Mechanical Engineering, Graduate Faculty; B.S., South Dakota State University, 1972; M.S., 1973; Ph.D., Cornell University, 1976.

**Funchion, Michael F.**, Professor Emeritus of History, Graduate Faculty; B.A., Iona College, 1966; M.A., Loyola University, 1968; Ph.D., 1973.

**Galipeau, David W.**, Harold C. Hohbach Endowed Professor Emeritus of Electrical Engineering; B.E., University of Rhode Island, 1971; M.S., University of Maine, 1989; Ph.D., 1992.

**Gartner, F. Robert**, Professor Emeritus of Range Science; B.S., University of Wyoming, 1950; M.S., University of California, 1956; Ph.D., University of Wyoming, 1967.

**Gee, Dan H.**, Professor Emeritus of Animal and Range Sciences; B.S., University of Minnesota, 1965; M.S., South Dakota State University, 1967; Ph.D., 1970.

**Gehrke, Jr., Henry**, Professor Emeritus of Chemistry and Biochemistry; B.S., Oklahoma State University, 1958; M.S., University of Iowa, 1963; Ph.D., 1964.

**Gerwing, James R.,** Professor of Plant Science Emeritus; B.S., University of Minnesota, 1975; M.S., 1978.

**Getz, Jack**, Professor Emeritus of Journalism and Mass Communication, Graduate Faculty; B.S., South Dakota State University, 1964; M.A., University of Arizona, 1985; Ed.D., University of South Dakota, 2001.

**Ghazi, Hassan S.**, Professor Emeritus of Mechanical Engineering, Graduate Faculty; B.S., Purdue University, 1954; M.S., Ohio State University, 1956; Ph.D., 1962.

**Giago, Doris J.**, Professor Emerita of Journalism and Mass Communication; B.S., South Dakota State University, 1989; M.S., University of Kansas, 1992.

**Gleim, David E.**, Dean Emeritus of the Briggs Library; B.A., Brescia University, 1971; M.S.L.S., University of Kentucky, 1973; Ph.D., University of North Carolina-Chapel Hill, 1992.

**Gorham, Elizabeth E**., Associate Professor Emerita of Extension Family Resource Management; B.S., Iowa State University, 1968; M.S., Utah State University, 1971; Ph.D., Oregon State University, 1993.

**Graetzer, Hans G.**, Professor Emeritus of Physics; B.A., Oberlin College, 1952; M.S., Yale University, 1953; Ph.D., 1956.

**Granholm, Nels H.**, Distinguished Professor Emeritus of Biology, Microbiology and Global Studies, Graduate Faculty; B.A., University of Massachusetts, 1964; Ph.D., Iowa State University, 1968.

**Grant, Geoffrey W.**, Associate Professor Emeritus of Rural Sociology, Graduate Faculty; B.A., Carroll College, 1964; M.A., University of Nebraska, 1969; Ph.D., 1980.

**Graper, David F.**, Professor Emeritus of Horticulture Science, Graduate Faculty; B.S., University of Wisconsin, 1983; M.S., Colorado State University, 1985; Ph.D., University of Maryland, 1990.

**Gritzner, Charles F.**, Distinguished Professor Emeritus of Geography, Graduate Faculty; B.A., Arizona State University, 1958; M.A., Louisiana State University, 1960; Ph.D., 1969.

**Gritzner, Janet H.**, Professor Emerita of Geography; B.A., University of Maryland, 1965; M.A., 1970; Ph.D., Louisiana State University, 1978.

**Grove, John A.**, Professor Emeritus of Chemistry, Graduate Faculty; B.S., Ohio State University, 1961; M.S., 1964; Ph.D., 1966.

**Guan, Xiangming**, Professor Emeritus of Pharmaceutical Sciences, Graduate Faculty; B.S., Zhejiang Medical University, 1982; M.S., University of Kansas, 1988; Ph.D., 1991.

**Hacker, Patricia E.**, Professor Emerita of Health and Nutritional Sciences, Graduate Faculty; B.Ed., Glenville State College, 1973; M.S., West Virginia University, 1983; Ph.D., University of Wyoming, 1988.

**Haertel, Lois S.**, Professor of Biology and Microbiology Emeritus, Graduate Faculty; B.S., University of Illinois, 1961; M.S., 1963; Ph.D., Oregon State University, 1969.

**Haleta, Laurie L.**, Professor Emerita of Communication Studies and Theatre; B.S., South Dakota State University, 1977; M.A., 1983; Ph.D., University of Nebraska, 1994.

**Hall, Robert G.**, Professor Emeritus of Plant Science, Graduate Faculty; B.S., University of Idaho, 1969; M.S., 1974; Ph.D., University of Missouri, 1978.

**Hallman, Clark**, Professor Emeritus of Libraries; B.S., University of Pittsburgh, 1971; M.L.S., 1977; M.S., South Dakota State University, 1988.

**Hamilton, Edward D.**, Professor of Veterinary Science Emeritus, Graduate Faculty; B.S., Texas A&M University, 1973; D.V.M., 1974.; M.S., 1992.

**Hanson, Clark W.**, Professor Emeritus of Education, Graduate Faculty; B.S., University of Minnesota, 1963; M.A., 1971; Ph.D., Iowa State University, 1972.

**Harper, Ruth**, Professor Emerita of Counseling and Human Development, Graduate Faculty; B.A., Cornell College, 1973; M.Ed., University of Wisconsin-Oshkosh, 1977; Ph.D., Kansas State University, 1987.

**Hassoun, Nadim M.**, Professor Emeritus of Civil Engineering, Graduate Faculty; B.S., Cairo University, 1956; M.S., University of Michigan, 1966; Ph.D., 1968.

**Hatfield, Warren G.**, Professor Emeritus of Music; B.A., University of Northern Iowa, 1952; M.S., University of Iowa, 1959; Ph.D., 1967.

**Haug, Mary,** Associate Professor Emerita of English; B.A., South Dakota State University, 1968; M.A., 1976.

**Hecht, Harry G.**, Professor Emeritus of Education, Graduate Faculty; B.S., Brigham Young University, 1958; M.S., 1959; Ph.D., University of Utah, 1962.

**Hefling, Joel L.,** Assistant Professor Emeritus of Communication Studies and Theatre; B.S.E., Emporia State University, 1964; M.S., 1970.

**Hegge, Margaret J.**, Distinguished Professor Emerita of Nursing, Director of Academic Evaluation and Assessment Emerita, Graduate Faculty; B.A. Gustavus Adolphus College, 1969; M.Ed., South Dakota State University, 1972; Ed.D., University of South Dakota, 1983; M.S., University of Minnesota, 1984.

**Hegland, Jane E.**, Professor Emerita of Consumer Sciences, Graduate Faculty; B.A., Saint Olaf College, 1985; M.A., University of Minnesota, 1991; Ph.D., 1995.

**Held, Jeffrey E.**, Professor Emeritus of Animal Science, Graduate Faculty; B.S., University of Wisconsin, 1982; M.S., University of Illinois, 1985; Ph.D., University of Wisconsin,1989.

**Helder, Dennis L.**, Distinguished Professor Emeritus of Electrical Engineering, Graduate Faculty; B.S., South Dakota State University, 1979; B.S., 1980; M.S., 1985; Ph.D., North Dakota State University, 1991.

**Helgeland, David**, Professor Emeritus of Pharmacy Practice; B.S., South Dakota State University, 1974; M.B.A., University of South Dakota, 1982; Ed.D., 2000.

**Hellickson, Mylo A.**, Professor Emeritus of Agricultural and Biosystems Engineering, Graduate Faculty; B.S., North Dakota State University, 1964; M.S., 1966; Ph.D., West Virginia University, 1969.

**Helling, Mary Kay**, Vice Provost Emerita; B.S., South Dakota State University, 1977; M.S., 1982; Ph.D., Purdue University, 1992.

**Henning, David R.**, Associate Professor Emeritus of Dairy Science, Graduate Faculty; B.S., University of Illinois, 1962; Ph.D., Oregon State University, 1967.

**Hess, Donna J.**, Distinguished Professor Emerita of Rural Sociology, Graduate Faculty; B.A., Marquette University, 1965; M.A., State University of New York, 1971; Ph.D., Michigan State University, 1974.

**Hietbrink, Bernard E.**, Dean/Professor Emeritus of Pharmaceutical Sciences; B.S., South Dakota State University, 1958; Ph.D., University of Chicago, 1961.

**Higgins, Kenneth F.**, Professor Emeritus of Wildlife and Fisheries, Graduate Faculty; B.S., Colorado State University, 1965; M.S., South Dakota State University, 1968; Ph.D., North Dakota State University, 1981.

**Hillner, Kenneth**, Professor Emeritus of Psychology, Graduate Faculty; B.A., Dartmouth College, 1960; Ph.D., Indiana University, 1965.

**Hobbs, Barbara B.**, Associate Professor Emerita of Nursing, Graduate Faculty; B.S.N., San Diego State University, 1970; M.S.N., California State University, 1991; Ph.D., University of Nebraska, 2004.

**Hofland, Sharon A.**, Professor Emerita of Nursing, Graduate Faculty; B.S., South Dakota State University, 1972; M.S., 1972; Ph.D., 1976; M.N., University of Washington, 1979.

**Hogan, Edward P.**, Professor Emeritus of Geography, Associate Vice President for Academic Affairs, and Chief Information Technology Officer Emeritus, Graduate Faculty; B.S., Saint Louis University, 1961; M.A., 1962; Ph.D., 1969.

**Houglum, Joel E.**, Professor of Pharmaceutical Sciences and Assistant Dean Emeritus, Graduate Faculty; A.A., Lake Region Junior College, 1969; B.S., University of Minnesota, 1972; Ph.D., University of Wisconsin, 1979.

**Howard, Richard K.**, Emeritus Assistant Professor of the Cooperative Extension Service; B.S., South Dakota State University, 1966; M.Ed., 1976.

**Iken, Martha B.**, Assistant Professor Emerita of Nursing; B.S., Dakota State University, 1967; M.A., University of South Dakota, 1968; B.S., South Dakota State University, 1977; M.S., 1984; Ed.D., University of South Dakota, 2000.

**Janssen, Larry L.**, Professor Emeritus of Economics; B.S., University of Nebraska, 1971; M.S., Oklahoma State University, 1974; Ph.D., University of Nebraska, 1978.

**Jenks, Jonathan A.**, Distinguished Professor Emeritus of Wildlife Science, Graduate Faculty; A.A., Unity College, 1982; B.S., 1984; M.S., University of Maine, 1986; Ph.D., Oklahoma State University, 1991.

**Jensen, Darrell**, Professor of Education/Dean of Education and Counseling Emeritus; B.S., Northwest Missouri State University, 1959; M.A., Drake University, 1965; Ph.D., University of Iowa, 1971.

**Jensen, William**, Professor Emeritus of Chemistry, Graduate Faculty; B.S., University of Minnesota, 1959; M.S., University of Iowa, 1962; Ph.D., 1964.

**Joffer, Coral Lee**, Assistant Professor Emeritus of Nursing; B.S., South Dakota State University, 1964; M.S., University of Minnesota, 1969.

**Johnson, Corliss L.**, Professor Emeritus of Music, Graduate Faculty; B.M.E., Emporia State University, 1965; M.S., 1966; D.M.A., University of Colorado, 1972.

**Johnson, Darrell D.**, Professor Emeritus of Veterinary Science; B.S., North Dakota State University, 1956; B.S., Kansas State University, 1961, D.V.M., 1963, Ph.D., 1976.

**Johnson, James L.**, Distinguished Professor Emeritus of Communication Studies and Theatre, Graduate Faculty; B.S., Kansas State University, 1960; M.A., University of South Dakota, 1961; Ph.D., University of Kansas, 1973.

**Johnson, James R**., Professor Emeritus of Animal and Range Sciences; B.S., Montana State University, 1964; M.S., 1966; Ph.D., Oregon State University, 1974.

**Johnson, Patricia S.**, Professor Emerita of Range Science, Graduate Faculty; B.A., Fort Lewis College, 1974; B.S., 1975; M.S., Utah State University, 1978; Ph.D., 1987.

**Johnson, W. Carter**, Distinguished Professor Emeritus of Ecology, Graduate Faculty; B.S., Augustana College, 1968; Ph.D., North Dakota State University, 1971.

**Johnston, Carol A.**, Professor Emeritus of Ecology, Graduate Faculty; B.S., Cornell University, 1974; M.S., University of Wisconsin, 1977; Ph.D., 1982.

**Jones, Allen L.**, Professor Emeritus of Civil and Environmental Engineering, Graduate Faculty; B.S., University of Idaho, 1986; M.S., 1988; Ph.D., University of Washington, 2003.

**Jorgensen, Jerry D.**, Professor Emeritus of Communication Studies and Theatre and Dean Emeritus of the College of Arts and Sciences, Graduate Faculty; B.S., South Dakota State University, 1978; M.S.,1984; Ph.D., University of Nebraska, 1990.

**Kaatz, Brian L.**, Professor and Dean Emeritus of the College of Pharmacy, Graduate Faculty; B.S., South Dakota State University, 1974; Pharm.D., University of Minnesota, 1977.

**Kayongo-Male, Diane E.**, Professor Emerita of Sociology and Rural Studies; B.A., State University of New York, 1970; M.A., Michigan State University, 1972; Ph.D., 1974.

**Keller, Michael A.**, Professor Emeritus of English, Graduate Faculty; B.A., Colorado State University, 1975; M.A., University of Illinois at Chicago, 1981; Ph.D., 1993.

**Kemp, Daniel C.**, Professor Emeritus of Mathematics, Graduate Faculty; B.A., Knox College, 1963; M.S., University of Arizona, 1967; Ph.D., Oklahoma State University, 1975.

**Kenefick, Donald G.**, Professor Emeritus of Plant Science and Biochemistry, Graduate Faculty; B.S., University of Wisconsin, 1951; Ph.D., Michigan State University, 1959.

**Kephart, Kevin D.**, Vice President Emeritus for Research and Economic Development; B.S., Montana State University, 1979; M.S., University of Wyoming, 1982; Ph.D., Iowa State University, 1987.

**Keys Hall, Teresa J.**, Professor and Department Head Emerita of Construction and Operations Management, Graduate Program Coordinator, Graduate Faculty; B.A., University of Northern Iowa, 1989; M.S., 1991; Ph.D., Iowa State University of Science and Technology, 1997.

**Kildahl, Karen A.**, Professor Emerita of English, Graduate Faculty; B.S., University of Washington, 1963; M.A., 1968; Ph.D., 1974.

**Kim, Bang J.**, Professor Emerita; B.A., Ewha Women's University, 1961; M.A., University of Oregon, 1965.

**Kim, Han J.,** Professor Emeritus of Economics, Graduate Faculty; A.A., San Joaquin Delta College, 1958; B.A., University of California, 1960; M.A., University of Oregon, 1962; Ph.D., Oregon State University, 1969.

**Lacher, Robert J.**, Professor Emeritus of Mathematics and Statistics, Graduate Faculty; B.S., Saint Cloud State University, 1961; M.S., Rutgers University, 1965; D.A., University of Northern Colorado, 1971.

**Lamberton, Charles E.,** Professor Emeritus of Economics, Graduate Faculty; B.B.A., University of Minnesota, 1960; M.S., University of Wyoming, 1970; Ph.D., Iowa State University, 1975.

**Langham, Marie A. C.**, Professor Emerita of Plant Pathology; B.S., East Texas State University, 1975; M.S., 1977; Ph.D., Texas A&M University, 1986.

**Larson, Gary E.**, Professor Emeritus of Natural Resource Management, Graduate Faculty; B.S., Kearney State College, 1972; Ph.D., North Dakota State University, 1980.

**Lattin, Danny L.**, Professor and Dean Emeritus of the College of Pharmacy, Graduate Faculty; B.S., University of Kansas, 1965; Ph.D., University of Minnesota, 1970.

**Leisure, O. W.**, Professor Emeritus of Physics, Graduate Faculty; B.S., South Dakota State University, 1960; M.S., 1966.

**Leslie, Jerome R.**, Assistant Professor Emeritus; B.S., South Dakota State University, 1962; M.S., 1990.

**Libal, George W.**, Professor Emeritus of Animal and Range Sciences; B.S., University of Nebraska, 1966; M.S., 1968; Ph.D., South Dakota State University, 1974.

**Lonowski, Delmer E.**, Professor Emeritus of Political Science; B.A., George Washington University, 1968; M.A.Ed., University of Nebraska-Kearney, 1986; M.A., 1988; Ph.D., University of Nebraska-Lincoln 1991.

**Lyons, Nancy N.**, Professor Emerita of Consumer Sciences, Graduate Faculty; B.S., North Dakota State University, 1974; M.S., 1977; Ed.D., University of South Dakota, 2001.

**Lyons, Patrick A.**, Professor Emeritus of Economics; B.S., South Dakota State University, 1969; M.B.A., University of South Dakota, 1970; J.D., 1974

**Malo, Douglas D.**, Distinguished Professor Emeritus of Soil Science, Graduate Faculty; B.S., Iowa State University, 1971; M.S., North Dakota State University, 1974; Ph.D., 1975.

**Marquardt, Steve R.**, Dean and Professor of Libraries Emeritus; B.A., Macalester College, 1966; M.A., University of Minnesota, 1970; M.A., 1974; Ph.D., 1978.

**Matthees, Duane**, Professor Emeritus of the SDSU Veterinary and Biomedical Sciences Department and the SD Agricultural Experiment Station, Graduate Faculty; B.A. Augsburg College, 1972; Ph.D., University of Maryland, 1978.

**Matz, Ralph L.**, Extension Program Development Coordinator Emeritus; B.S., South Dakota State University, 1969; M.Ed., 1971; M.S., 1975.

**Mc Farland, Douglas C.**, Distinguished Professor Emeritus of Animal Science, Graduate Faculty; B.A., Southern Connecticut State College, 1971; M.S., Washington State University, 1975; Ph.D., 1984.

**Mc Kinney, Jimmy R.**, Professor Emeritus of Music and Director Emeritus of The Pride of the Dakotas; B.M.E., Oklahoma State University, 1971; M.Ed., University of Arkansas, 1972.

**Mendelsohn, Robert D.**, Professor Emeritus of Rural Sociology, Graduate Faculty; B.S., Illinois State University, 1967; M.S., Western Michigan University, 1971; Ph.D., 1973.

**Messerschmidt, Kimberly**, Professor Emerita of Pharmacy Practice, Graduate Faculty; B.S., South Dakota State University, 1985; Pharm.D., 1995.

**Miller, John E.**, Professor Emeritus of History, Graduate Faculty; B.A., University of Missouri, 1966; M.A., University of Wisconsin, 1968; Ph.D., 1973.

**Miller, Peggy Gordon**, President and Professor of Education Emeritus, Graduate Faculty; B.A., Transylvania University, 1959; M.S., Northwestern University, 1964; Ed.D., Indiana University, 1975, L.L.D., Transylvania University (Honorary Degree), 1993.

**Moeller, Lonell L**., Professor Emeritus of Agricultural Education; B.S., South Dakota State University, 1970; M.Ed., 1976; Ph.D., Iowa State University, 1981.

**Monahan, Maurice L.**, Professor Emeritus of Mathematics and Statistics; B.S., South Dakota State University, 1956; M.S., University of Illinois, 1964.

**Morgan, Helen N.**, Professor Emerita of Visual Arts; B.F.A., School of the Art Institute of Chicago, 1953; M.F.A., 1964; Ed.D., Illinois State University, 1984.

**Morrill, Keith**, Associate Professor of Biology/Microbiology Emeritus; B.S., South Dakota State University, 1959; M.A., University of South Dakota, 1963.

**Mort, Jane R.**, Dean Emeritus of the College of Pharmacy and Allied Health Professions; Pharm.D., University of Nebraska, 1985.

**Moutsoglou, Alexandros**, Professor Emeritus of Mechanical Engineering, Graduate Faculty; B.S., University of Missouri, 1973; M.S., 1974; Ph.D., 1977.

**Muxen, Marla J.**, Professor Emerita of Counseling and Human Development; B.S., South Dakota State University, 1971; M.S., Southern Illinois University, 1980; Ph.D., University of Minnesota, 1990.

**Mylant, Mary Lou**, Professor Emerita of Nursing; B.S.N., Cleveland State University, 1974; M.S.N., Case Western Reserve University, 1978; Ph.D., University of Texas, 1988.

**Napton, Darrell E.**, Professor Emeritus of Geography and Geospatial Sciences, Graduate Faculty; B.S., University of Missouri, 1973; M.A., 1975; Ph.D., University of Minnesota, 1987.

**Nelson, David S.**, Professor Emeritus of Philosophy; B.A., Augustana College, 1960; M.S., S.D. School of Mines and Technology, 1962; Ph.D., University of Oregon, 1967.

**Nielsen, G. Howard**, Professor Emeritus of Mathematics, Graduate Faculty; B.S., South Dakota State University, 1963; M.A., University of Colorado, 1966; Ph.D., 1969.

**Norris, Virginia**, Professor Emerita of Psychology, Graduate Faculty; B.A., Baldwin-Wallace College, 1983; M.A., Kent State University, 1986; Ph.D., 1991.

**Nussbaumer, Linda L.**, Professor Emerita of Interior Design, Graduate Faculty; B.S., Mankato State University, 1990; M.S., 1992; Ph.D., University of Minnesota, 1998.

**O'Connor, Mary**, Professor Emerita of English, Graduate Faculty; B.A., College of Notre Dame, 1970; M.F.A., Columbia University, 1977; Ph.D., University of California, 1992.

**Olson, Lyle D.**, Professor Emeritus of Communication and Journalism, Graduate Faculty; A.A., Bartlesville Wesleyan College, 1974; B.S., South Dakota State University, 1976; M.A., University of Oklahoma, 1981; Ed.D., Oklahoma State University, 1988.

**Olson, Roberta K.**, Dean and Professor Emerita of Nursing; B.S., South Dakota State University, 1964; M.S.N., Washington University, 1968; Ph.D., Saint Louis University, 1984.

**Palmer, Ivan S.**, Professor Emeritus of Chemistry and Biochemistry; B.S., South Dakota State University, 1955; M.S., 1956; Ph.D., Pennsylvania State University, 1960.

**Parsons, John G.**, Professor and Head Emeritus of Dairy Science, Graduate Faculty; B.S., University of Manitoba, 1961; M.S., 1963; Ph.D., Pennsylvania State University, 1968.

**Penor-Ceglian, Cindi M.**, Professor Emerita of Human Development, Graduate Faculty; B.S., South Dakota State University, 1979; M.Ed., 1980; Ph.D., 1997.

**Penrod, Kathryn M.**, Professor Emerita of Teaching, Learning and Leadership; B.S., Purdue University, 1975; M.S., Cornell University, 1981; Ph.D., 1984.

**Perpich, Mary**, Associate Professor Emerita of Journalism and Mass Communication; B.A. Michigan State University, 1976; M.A. Michigan State University, 1981.

**Peterson, Carol J.,** Provost and Vice President Emerita for Academic Affairs, Graduate Faculty; Diploma in Nursing, Methodist Kahler School of Nursing, 1960; B.S., University of Minnesota, 1963; M.Ed., 1964; Ph.D., 1969.

**Peterson, Donald L.**, Professor Emeritus of Economics; A.A., Austin Community College, 1960; B.A., Mankato State University, 1965; M.A., 1967; Ph.D., University of Nebraska, 1973.

**Peterson, Gary**, Professor Emeritus of Biology and Microbiology, Graduate Faculty; B.S., University of Utah, 1965; M.S., Emporia State University, 1969; D.A., University of Northern Colorado, 1971.

**Peterson, Raymond L.**, Professor Emeritus of Communication Studies and Theatre; B.S., Dakota State University, 1968; M.A., South Dakota State University, 1973.

**Peterson, Ronald M.**, Professor Emeritus of Horticulture; B.S., Colorado State University, 1947; M.S., University of California, 1949; Ph.D., University of Minnesota, 1953.

**Phelps, Brady**, Professor Emeritus of Psychology, Graduate Faculty; B.S., Utah State University, 1983; M.S., 1986; Ph.D., 1992.

**Piersel, David,** Professor Emeritus of Music; B.M.E., Simpson College, 1958; M.A., University of Iowa, 1964; Ph.D., 1970.

**Pohl, Stephen H.**, Professor Emeritus of Agricultural and Biosystems Engineering; B.S., South Dakota State University, 1973; M.S., 1975; Ph.D., University of Nebraska, 2000.

**Pollmann, Robert J.**, Associate Professor of Plant Science/Manager of Seed Certification Emeritus; B.S., South Dakota State University, 1961; M.Ed., 1967.

**Powers, James E.**, Professor Emeritus of Clinical Pharmacy, Graduate Faculty; B.S., University of Wisconsin, 1957; Pharm.D., University of Minnesota, 1983.

**Quist, Oren P.**, Professor Emeritus of Physics, Graduate Faculty; B.A., Gustavus Adolphus College, 1965; M.S., University of Denver, 1967; Ph.D., 1973.

**Raney, A. Leon**, Professor/Dean of Libraries Emeritus; B.S., University of Central Arkansas, 1960; M.S., Louisiana State University, 1962; Ph.D., Indiana University, 1972.

**Rauber, Joel D.**, Professor Emeritus of Physics, Graduate Faculty; B.S., Emory University, 1978; Ph.D., University of North Carolina, 1985.

**Reese, R. Neil**, Professor Emeritus of Biology; B.S., Utah State University, 1977; M.S., University of Idaho, 1980; Ph.D., 1984.

**Reeves, Dale L.,** Professor of Plant Science Emeritus; B.S., Kansas State University, 1958; M.S., 1963; Ph.D., Colorado State University, 1969.

**Reid, Richard A.**, Associate Dean and Professor Emeritus of the Jerome J. Lohr College of Engineering; B.S., The Citadel, 1981; M.S., Georgia Institute of Technology, 1987; Ph.D., 1995.

**Rice, James A.**, Professor Emeritus of Chemistry and Biochemistry; B.A., Saint John's University, 1978; M.S., Colorado School of Mines, 1982; Ph.D., 1987.

**Richardson, Jay R.**, Professor Emeritus of Human Development/Child and Family Studies; B.S., Brigham Young University, 1957; M.S., 1958; Ed.D., Pennsylvania State University, 1969.

**Richardson, Marilyn**, Associate Professor Emerita of HPER; B.A., Brigham Young University, 1956; M.A., Pennsylvania State University, 1963.

**Richter, Anthony H.,** Professor Emeritus of German, Graduate Faculty; B.A., Northwestern University, 1965; M.A.T., 1966; Ph.D., 1971.

**Rickerl, Diane Holland,** Professor Emerita of Plant Science, Graduate Faculty; B.S., Iowa State University, 1972; M.A., 1976; M.S., Auburn University, 1984; Ph.D., 1986.

**Rogers, Lawrence.**, Professor Emeritus of Education, Graduate Faculty; B.A., University of Nebraska, 1964; Ph.D., 1975.

**Rollag, Dwayne A**., Professor Emeritus of Civil and Environmental Engineering, Graduate Faculty; B.S., University of Minnesota, 1959; M.S., South Dakota State University, 1966; Ph.D., Purdue University, 1975.

**Rose, Madeleine S.**, Associate Professor of Nutrition, Food Science & Hospitality Emerita, Graduate Faculty; B.S., University of California, 1970; M.S., University of Maryland, 1972; Ph.D., Texas Woman's University, 1985.

**Rose, Robert**, Associate Professor of Nutrition, Food Science & Hospitality Emeritus; B.S., South Dakota State University, 1970; M.S., University of Maryland, 1972; Ph.D., Texas Woman's University, 1991.

**Ruffolo, John J.**, Professor Emeritus of Biology and Microbiology, Graduate Faculty; B.S., Loyola University, 1965; M.S., University of Iowa, 1969; Ph.D., 1972

**Ryder, Mary R.,** Distinguished Professor Emerita of English, Graduate Faculty; B.A., Monmouth College, 1972; M.A., Illinois State University, 1981; Ph.D., University of Illinois, 1987.

**Salehnia, Alireza**, Professor Emeritus of Computer Science, Graduate Faculty; B.A., Iranian Institute of Advanced Accounting (Iran), 1975; M.B.A., Central State University, 1977; Ph.D., University of Missouri, 1989.

**Sander, Duane**, Dean Emeritus and Professor Emeritus of Electrical Engineering; B.S., S.D. School of Mines and Technology, 1960; M.S., Iowa State University, 1962; Ph.D., 1964.

**Sandness, Roger K.**, Professor and Head Emeritus of Geography, Graduate Faculty; B.S., University of North Dakota, 1967; M.S., 1968; Ph.D., University of Iowa, 1986.

**Satterlee, James L.**, Professor Emeritus of Rural Sociology, Graduate Faculty; B.S., South Dakota State University, 1962, M.S., 1963; Ph.D., 1970.

**Schingoethe, David J.**, Distinguished Professor Emeritus of Dairy Science, Graduate Faculty; B.S., University of Illinois, 1964; M.S., 1965; Ph.D., Michigan State University, 1968.

**Schipull, Martin A.**, Professor Emeritus of Agricultural and Biosystems Engineering; B.S., University of Wisconsin, 1974; M.Ed., University of Minnesota, 1981.

**Schliessmann, Michael R.**, Professor Emeritus of Communication Studies and Theatre, Graduate Faculty; B.S., South Dakota State University, 1973, M.S., 1974; Ph.D., University of Kansas, 1981.

**Schumacher, Thomas E.**, Professor Emeritus of Plant Science, Graduate Faculty; B.A., Bluffton College, 1972; M.S., Michigan State University, 1979; Ph.D., 1982.

**Sckerl, Jo Ann**, Director Emerita of Academic Evaluation and Assessment; B.A., South Dakota State University, 1973; M.A., Mississippi University for Women, 1980; Ed.D., University of South Dakota, 2002.

**Selim, Ali A.**, Professor Emeritus of Civil and Environmental Engineering, Graduate Faculty; B.S., Ain-Shams University (Egypt), 1967; M.S., University of Missouri, 1974; Ph.D., 1976.

**Sergeev, Igor**, Professor Emeritus of Health and Nutritional Sciences, Graduate Faculty; B.S./M.S., Moscow State University (Russia), 1977; Ph.D., Institute of Biomedical Problems- Moscow (Russia), 1984; D.Sc., Institute of Nutrition, Academy of Medical Science-Moscow (Russia), 1991.

**Shane, Richard C.**, Professor Emeritus of Economics, Graduate Faculty; B.S., South Dakota State University, 1969; M.S., University of Arizona, 1971; Ph.D., Washington State University, 1978.

**Sigl, Arden B.**, Professor Emeritus of Civil and Environmental Engineering, Graduate Faculty; B.S., South Dakota State University, 1967; M.S., 1969; Ph.D., Northwestern University, 1977.

**Singh, Yadhu N.**, Professor of Pharmaceutical Sciences Emeritus, Graduate Faculty; B.S., University of Otago (New Zealand), 1967; M.S., University of Strathclyde (Scotland), 1974; Ph.D., 1979.

**Slyter, Lowell**, Professor Emeritus of Animal and Range Sciences, Graduate Faculty; B.S., Kansas State University, 1964; M.S., University of Nebraska, 1966; Ph.D., Kansas State University, 1969.

**Smith, Howard**, Associate Dean of the College of Education and Counseling Emeritus and Professor Emeritus of Counseling & Human Resource Development; B.A., University of Sioux Falls, 1965, M.Div., Central Baptist Theological Seminary, 1968; M.Ed., South Dakota State University1974; Ed.D., University of South Dakota, 1980.

**Specker, Bonny**, Ethel Austin Martin Endowed Chair and Professor Emerita, Health and Nutritional Sciences, Graduate Faculty; B.S., University of Cincinnati, 1977; M.S., 1980; Ph.D., 1983.

**Spinar, Leo H.**, Professor Emeritus of Chemistry and Biochemistry; B.A., University of South Dakota, 1951; M.S., University of Wisconsin, 1953; Ph.D., 1958.

**Spinar, Melvin F.**, Professor Emeritus of Visual Arts; B.A., Dakota Wesleyan University, 1962; M.A., University of Iowa, 1965; M.F.A., 1966; M.F.A., 1966.

**Steele, Michael Tim**, Professor Emeritus of Graphic Design; A.A., Spokane Falls Community College, 1975; B.F.A., Fort Wright College of the Holy Names, 1978; M.F.A., Washington State University, 1980.

**Steinley, Gary L.**, Professor Emeritus of Education and Counseling, Graduate Faculty; B.S., Black Hills State University, 1963; M.A., Fresno State University, 1967; Ph.D., University of Utah, 1970.

**Stover, Ronald G.**, Professor Emeritus of Sociology and Rural Studies; B.A., University of Georgia, 1970; M.A., 1973; Ph.D., 1975.

**Stuart, Signe**, Professor Emerita of Visual Arts; B.A., University of Connecticut, 1959; M.A., University of New Mexico, 1960.

**Stymiest, Clair**, Associate Professor of Plant Science Emeritus; B.S., South Dakota State University, 1966; M.S., 1970.

**Sunde, Carl R.**, Professor Emeritus of German; B.A., Luther College, 1962; M.A., University of Iowa, 1967; Ph.D., 1974.

**Sutton, Fedora**, Professor Emerita of Molecular Biology, Graduate Faculty; B.A., University of Maryland, 1981; Ph.D., Howard University, 1985.

**Swanson, Robert N.**, Professor Emeritus of Veterinary Science; B.S., Ft. Hays Kansas State College, 1953; M.S., Kansas State University, 1960; D.V.M., 1960; Ph.D., 1964.

**Swedlund, Harriet, P**., Assistant Professor Emerita of Apparel Merchandising and Director of International Programs Emerita; B.S., Iowa State University, 1954; M.S., 1957.

**Sweeney, Jerry K.**, Professor Emeritus of History, Graduate Faculty; B.A., Fort Hays Kansas State University, 1962; M.A., Kansas State University, 1967; Ph.D., Kent State, 1970.

**Taylor, John W.**, Professor Emeritus of English; B.A., Macalester College, 1969; M.A., Indiana University, 1973; Ph.D., 1973.

**Thiex, Nancy**, Professor Emerita of the SDSU Veterinary and Biomedical Sciences Department and the SD Agricultural Experiment Station; B.A., Northern State University, 1970; M.Ed., South Dakota State University, 1972; M.S., 1974.

**Tidemann, Gail Dobbs**, Dean Emerita of Continuing and Extended Education, Graduate Faculty; B.S., Jacksonville State University, 1977; M.A., University of Alabama, 1978; Ph.D., 1986.

**Tidemann, Larry J.**, Director Emeritus of the Cooperative Extension Service; B.S., South Dakota State University, 1970; M.S., 1972.

**Tiltrum, Charles A.**, Associate Professor Emeritus of Civil Engineering; B.S., South Dakota State University, 1972; M.S., 1974.

**Tolle, Gordon J.**, Professor Emeritus of Political Science, Graduate Faculty; B.A., Oberlin College, 1965; M.A., University of Notre Dame, 1967; Ph.D., University of Colorado, 1978.

**Troelstrup, Jr., Nels H.**, Professor Emeritus of Ecology, Graduate Faculty; B.A., University of Colorado, 1981; M.S., University of Nebraska, 1985; Ph.D., University of Minnesota, 1992.

**Tschetter, Lois J.**, Professor Emerita of Nursing; B.S., South Dakota State University, 1974; M.S., 1985; Ed.D., University of South Dakota, 2001.

**Tschetter, Wesley G.**, Vice President Emeritus for Finance & Business/Chief Financial Officer; B.S., South Dakota State University, 1969; M.B.A., University of South Dakota, 1971.

**VanRiper, Gary,** Assistant Professor of Pharmaceutical Sciences Emeritus; B.S., South Dakota State University, 1969; M.S., 1972.

**Wadsworth, Jr., William S**., Professor Emeritus of Chemistry; B.S. Trinity College, 1950; M.S., 1952; Ph.D., Pennsylvania State University, 1955.

**Wahlstrom, Richard C.**, Distinguished Professor Emeritus of Animal Science; B.S., University of Nebraska, 1948; M.S., University of Illinois, 1950; Ph.D., 1952.

**Walker, Darwin E.**, Professor Emeritus of Music; B.S., Northern State University, 1959; M.A., University of Northern Colorado, 1968; Ed.D., 1972.

**Werner, Hal D.,** Professor Emeritus of Agricultural and Biosystems Engineering; B.S., South Dakota State University, 1970; M.S., 1971; Ph.D., University of Minnesota, 1984.

**West, George A.**, Professor Emeritus of English, Graduate Faculty; B.S., South Dakota State University, 1965; M.A., University of Nebraska, 1967; Ph.D., 1972.

**Wilson, Ann L.**, Professor Emerita of Teaching, Learning and Leadership; B.A., Lewis and Clark College, 1969; M.A., Michigan State University 1973; Ph.D., 1975; M.S., South Dakota State University, 1994; M.A., Augustana College, 1995.

**Witherington, Paul**, Professor Emeritus of English; B.A., Baylor University, 1954; M.A., University of Texas, 1960; Ph.D., 1964.

**Woldt, Bradley**, Professor and Department Head Emeritus of Psychology; B.S., South Dakota State University, 1988; M.A., University of Montana, 1991; Ph.D., 1993.

**Woodard, Charles L.**, Distinguished Professor Emeritus of English; B.S., Dakota State University, 1964; M.A., University of Nebraska, 1966; Ph.D., University of Oklahoma, 1975.

**Woodard, Howard J.**, Professor Emeritus of Soil Science; B.S., University of Rochester, 1973; Ph.D., Rutgers University, 1985.

**Wrage, Leon J.**, Distinguished Professor of Plant Science Emeritus; B.S., South Dakota State University, 1961; M.S., 1964.

**Yocom, Kenneth L.**, Professor Emeritus of Mathematics and Statistics, Graduate Faculty; B.S., SD School of Mines and Technology, 1960; M.S., University of Wyoming, 1962; Ph.D., 1972.

**Zeman, David H.**, Professor Emeritus of Veterinary and Biomedical Sciences; B.S., North Dakota State University, 1976; D.V.M., Oklahoma State University, 1980; Ph.D., Louisiana State University, 1986.

# Academic Calendar

The Academic Calendar is set by the South Dakota Board of Regents.

## 2021 Fall Term

August 23, Monday – Start Date/Instruction Begins

September 2, Thursday – Last day to drop or add and adjust final fees

September 3, Friday – "W" grade begins

September 6, Monday – Labor Day Holiday

September 10, Friday – Last day to submit a graduation application for Fall 2021

October 11, Monday – Native American Day Holiday

October 15, Monday – First half Fall Term ends

October 20, Wednesday – Deficiency reports due by midnight

November 5, Friday – Last day to drop a course

November 11, Thursday – Veterans' Day Holiday

November 24-28, Wednesday – Sunday – Thanksgiving Recess

December 8, Wednesday – No classes; Final Exam Preparation

December 9-15, Thursday - Wednesday* – Final exams

December 20, Monday – Grades due by midnight

* December 15 - official graduate date noted on transcript

Note: There is no Fall 2021 Commencement Ceremony

## 2022 Spring Term

January 10, Monday – Start Date/Instruction Begins

January 17, Monday – Martin Luther King Day Holiday

January 19, Wednesday – Last day to drop or add and adjust final fees

January 20, Thursday – "W" grade begins

January 28, Friday – Last day to submit a graduation application for Spring 2022

February 21, Monday – Presidents' Day Holiday

March 7, Monday – First half Spring Term ends

March 10, Thursday – Deficiency reports due by midnight

March 14-18, Monday – Friday – Spring Break

April 4, Monday – Last day to drop a course

April 15-17, Friday – Sunday** – Easter Recess

May 2-6***, Monday – Friday – Final exams

May 7, Saturday – Commencement

May 11, Wednesday – Grades due by midnight

** The Governor has authorized administrative leave on the Monday following Easter in prior years and classes were canceled. Although April 18 is currently scheduled as a class day, please note this and plan events and class sessions accordingly.

*** May 6 - official graduation date noted on transcript

## 2022 Summer Term

May 9, Monday – May 27, Friday – May Interim

May 30, Monday – Memorial Day Holiday

May 31, Tuesday – August 5, Friday – 10-week Academic Summer Session

June 17, Friday – Last day to submit a graduation application for Summer 2022

July 4, Monday – Independence Day Holiday

August 8, Monday – August 19, Friday – August Interim