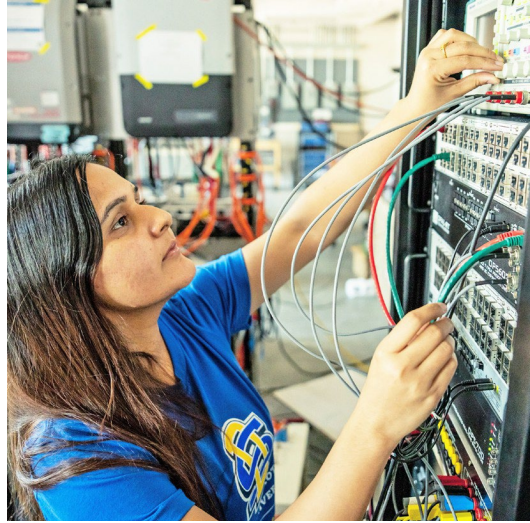




**SOUTH DAKOTA
STATE UNIVERSITY**



**UNDERGRADUATE
CATALOG
2025-2026**



SOUTH DAKOTA STATE UNIVERSITY

Undergraduate Catalog 2025-2026

Per SDBOR Policy 2.3.1:

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About SDSU

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

South Dakota State University Mission Statement

(SDBOR Policy 1.2.5)

Organizational Structure

South Dakota State University (SDSU) was granted the responsibility to serve as the State of South Dakota's land-grant institution of higher education through the federal enabling act of statehood in 1889. With this responsibility came the expectation to collaborate and partner with other land-grant universities throughout the United States to ensure groundbreaking discoveries and technologies positively impacting society.

SDSU understands its identity and responsibility as the state's land-grant university. This understanding extends to the tripartite mission of the 1862 Morrill Act, 1887 Hatch Act, and the 1914 Smith-Lever Act, with responsibility for teaching and learning; research, scholarship, and creative activity; and service and outreach.

SDSU has fundamental units serving the state of South Dakota:

- **Main Campus (Brookings):** South Dakota State University is the state's land-grant university, headquartered in Brookings, South Dakota, with extension, teaching, outreach, and other activities throughout the state. The SDSU mission statement is grounded in the tripartite mission of teaching and learning at the undergraduate and graduate levels; research, scholarship, and creative activity; and service and outreach. The research mission is one of the cornerstones of a land grant university and directly supports educational programming content. The campus serves residential students in undergraduate, professional, and graduate programs. The campus includes the College of Agriculture, Food and Environmental Sciences, College of Arts, Humanities and Social Sciences, College of Education and Human Sciences, College of Natural Sciences, College of Nursing, College of Pharmacy and Allied Health Professions, and the Jerome J. Lohr College of Engineering.
- **Agricultural Experiment Station (Statewide):** Agriculture Experiment Station (AES) is authorized by SDCL § 13-58-11 and tightly couples with the universities research mission. SDSU's research mission is to find solutions to

current problems surrounding the environment, food production, nutrition, and economics, as well as identify opportunities for the future. The new knowledge created from our AES research enhances the quality of life in South Dakota through the beneficial use and development of human, economic and natural resources. In addition to enhancing the quality of life in our state, AES research directly supports the teaching programs offered by the College of Agriculture, Food and Environmental Sciences, the College of Education and Human Sciences, the College of Arts, Humanities and Social Sciences, the College of Natural Sciences, and the educational programs delivered by SDSU Extension.

- **Cooperative Extension (Statewide):** As a cornerstone of SDSU's land-grant university mission and authorized by SDCL § 13-54-1, SDSU Extension empowers citizens to be more competitive and successful in our growing global economy through education and technical training or assistance. Its' purpose is to foster a learning community environment that empowers citizens to advocate for sustainable change that will strengthen agriculture, natural resources, youth, families, and the communities of South Dakota.
- **State Animal Disease Research and Diagnostic Laboratory:** Critical to the mission of SDSU, and authorized by SDCL § 13-58-13, is located at the main campus in Brookings, South Dakota.

Academic Curriculum and Credentials

SDSU is statutorily authorized through SDCL § 13-58.1, to offer academic programs in the liberal arts and sciences and professional education in agriculture, education, engineering, home economics, business economics, nursing, and pharmacy. SDSU has the authority to credential certificates, associate degrees, baccalaureate degrees, master's degrees and doctoral degrees provided formal approval by the Board of Regents. The Board of Regents may authorize academic programs outside of the statutory mission as identified by the Regents due to workforce needs, strategic needs of the state, etc. All program requests must comply with SDBOR Policy 2.3.2 and 2.3.3.

Authorized Degrees

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

Graduate Degrees

- Doctor of Nursing Practice (DNP)
- 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

Research and Economic Development

As part of its land-grant mission, SDSU has a robust research enterprise including, but not limited to, the Agricultural Experiment Station and SDSU Extension, which provides a connection for scientists and South Dakota residents, taxpayers, and producers. SDSU is strongly committed to extending the research discovery and best practices to producers and consumers across the state, nation, and world.

Public university research and innovations feed growth and resiliency in South Dakota's economy. The state of South Dakota's land-grant university mission drives real solutions to dynamic challenges through research-based discovery and innovation. High quality, leading-edge university research programs also develop a knowledge-based workforce. University faculty engaged in research, scholarship and creative activity best serve our students as they are current and informed in their evolving discipline resulting in a high-quality educational experience for all students. Undergraduate students participating in rigorous land-grant university research gain experiential learning that differentiates them in the marketplace.

Graduate students in land-grant university research laboratories gain hands-on research experience and leadership skills they use to drive innovation in the private and public sectors. SDSU's fundamental assets for fulfilling its land-grant research mission are stable, talented faculty and modern, reliable facilities and specialized equipment.

Research, Scholarship, and Creative Activity

The University is committed to excellence in its mission of research, scholarship and creative activity. Discovering new knowledge, ideas, and processes are fundamental Land-Grant University contributions to economic development and quality of life. Students are afforded opportunities to enrich their intellectual experience and differentiate themselves by participating in leading-edge research, scholarship, and creative activity.

To support research, scholarship, and creative activities, the University and its faculty actively secure sponsorship funds through grants, cooperative agreements, and contracts with other institutions, state and federal agencies, foundations, and the private sector. Student participation is encouraged as a way to begin an exciting career path and to gain unique experience. Students can often conduct research through mentorship with faculty and publish the results of their work. An annual event highlights undergraduate student research, scholarship, and creative activity accomplishments.

South Dakota State University is classified by the Carnegie Classification of Institutions of Higher Education as a Doctoral University: High Research Activity institution.

For information, contact the Division of Research and Economic Development.



Accreditations and Certifications

Academic Accredited Programs

<u>Accrediting Agency</u>	<u>Degree</u>	<u>Accrediting Agency</u>	<u>Degree</u>
Accreditation Board for Engineering and Technology (ABET)		Commission on Accreditation of Athletic Training Education (CAATE)	
Agricultural and Biosystems Engineering	B.S.	Athletic Training	M.S.
Computer Science	B.S.	Commission on Accreditation for Respiratory Care (CoARC)	
Civil Engineering	B.S.	Respiratory Care	A.S.
Electrical Engineering	B.S.	Commission on Accreditation for the Exercise Sciences (CoAES)	
Mechanical Engineering	B.S.	Exercise Science	B.S.
Construction Management	B.S.	Commission on Collegiate Nursing Education (CCNE)	
Operations Management	B.S.	Nursing	B.S.N.
Electronics Engineering Technology	B.S.	Nursing	M.S.
Accreditation Commission for Programs in Hospitality Administration (ACPHA)		Nursing	DNP
Hospitality, Tourism and Event Management	B.S.	Nursing - ARPN Post-Graduate	Certificate
Accreditation Council for Pharmacy Education (ACPE)		Council for Interior Design Accreditation (CIDA)	
Pharmacy	Pharm.D.	Interior Design	B.F.A.
Continuing Pharmacy Education Program	N/A	Council for the Accreditation of Counseling and Related Education Programs (CACREP)	
Accreditation Council for the Education of Nutrition and Dietetics (ACEND)		Counseling and Human Resource Development with Specialization in Clinical Mental Health Counseling	M.S.
Nutrition and Dietetics	B.S.	Counseling and Human Resource Development with Specialization in College Counseling	M.S.
Nutrition and Dietetics	M.S.	Counseling and Human Resource Development with Specialization in School Counseling	M.S.
Accrediting Council on Education in Journalism and Mass Communication (ACEJMC)		Counseling and Human Resource Development with Specialization in Rehabilitation Counseling	M.S.
Advertising	B.A., B.S.	Council for Accreditation of Educator Preparation (CAEP)	
Journalism	B.A., B.S.	Agricultural Education	B.S.
Mass Communication	M.M.C.	Biology Education	B.S.
Public Relations	B.A., B.S.	Chemistry Education	B.S.
American Nurses Credentialing Center (ANCC)		Early Childhood Education	B.S.
Nursing Continuing Professional Development	N/A	English Education	B.A., B.S.
American Society of Agricultural and Biological Engineers (ASABE)		Family and Consumer Sciences Education	B.S.
Agricultural Systems Technology	B.S.	History Education	B.A., B.S.
American Society of Animal Science (ASAS)		K-12 Art Education	B.F.A.
Animal Science	B.S.	K-12 Modern Foreign Language	B.A.
American Society of Biochemistry and Molecular Biology (ASBMB)		Math Education	B.S.
Biochemistry	B.S.	Physical Education	B.S.
American Society of Health-System Pharmacists (ASHP)		Physics Education	B.S.
Pharmacy - PGY1 Residency Program	Certificate	Psychology Education	B.A., B.S.
Aviation Accreditation Board International (AABI)		Sociology Education	B.S.
Aviation with Specialization in Aviation Education	B.S.	Speech Education	B.A., B.S.
		Educational Administration	M.Ed.
		School Counseling	M.S.

<u>Accrediting Agency</u>	<u>Degree</u>	<u>Academic Certified Program Units</u>
Council on Education for Public Health (CEPH) Public Health	MPH	Accrediting Agency
Landscape Architectural Accreditation Board (LAAB) Landscape Architecture	B.L.A.	American Chemical Society Chemistry - ACS Certified
National Architectural Accrediting Board, Inc (NAAB) Architecture	M.Arch.	Institute for Food Technologists (IFT) Food Science
National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) Medical Laboratory Science	B.S.	National Collegiate Honors Council Van D. and Barbara B. Fishback Honors College
National Association of Schools of Art and Design (NASM) Graphic Design	B.F.A.	Department of the Army Army ROTC
Interior Design	B.F.A.	College Reading and Learning Association (CRLA) Wintrade Tutoring Program is currently certified at Levels I, II, and III for International Tutor Training Program.
Studio Art (Art Education, Ceramics, Painting, Printmaking, Sculpture)	B.F.A.	Wintrade Student Success Center Peer Mentoring Program holds International Peer Educator Training Program Certification at Levels I and II.
National Association of Schools of Music (NASM) Music Education	B.M.E.	National College Learning Center Association (NCLCA) Learning Center Certification
Music	B.A.	
National Association of Schools of Theatre (NAST) Theatre	B.A., B.S.	
Society for Range Management (SRM) Ecology and Environmental Science with Specialization in Rangeland Ecology and Management	B.S.	
Society of Health and Physical Educators (SHAPE) Physical Education Teacher Education	B.S.	
United States Geospatial Intelligence Foundation (USGIF) Geospatial Intelligence Certificate	Minor	

Academic Accredited Units

<u>Accrediting Agency</u>	<u>Degree</u>
American Association of Museums Accreditation Commission (AAM) South Dakota Art Museum	N/A
American Association of Veterinary Lab Diagnosticians (AAVLD) Animal Disease Research and Diagnostic Lab	N/A
Association to Advance Collegiate Schools of Business (AACSB) Ness School of Management and Economics	
National Association for Education of Young Children (NAEYC) Fishback Center for Early Childhood Education	N/A
Society for Simulation in Healthcare (SSH) Nursing Healthcare Simulation Center - Teaching/Education	N/A



Admission Policies and Procedures

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**
- **\$21 Application Fee**
If you have previously attended a South Dakota public university as a degree-seeking student within one year prior to the term of application, have been called into active duty with the military, or will be a non-degree seeking applicant, you are not required to pay the application fee to SDSU.
- **Official High School Transcript**

Prospective students who have graduated high school or obtained their GED less than five years prior to their application date must submit official high school transcripts or GED transcripts to the institution. If a prospective student has graduated from high school or obtained their GED more than five years prior to their application date, they may submit either official high school transcripts or GED transcripts, or may submit an affidavit of successful completion.

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.

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.

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.

Prior to or during the first term of enrollment:

- Degree-seeking students, who do not have an associate or bachelor's degree completed, must have a final official transcript on file showing the completion of a high school diploma or equivalent.
- Degree-seeking students, who have completed post-secondary coursework, must have final official* transcript(s) on file showing the completion of any courses taken prior to enrollment at SDSU.

* Official transcripts must be sent through a secured transcript exchange service used by your institution or by postal mail sent directly from your institution to 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 2.2.1.4)

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:

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.

Minimum Course Requirements

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) completed prior to the high school 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) completed prior to the high school level 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:

- 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:

- 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 they were completed after the summer immediately following your 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

- 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.
- 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 2.2.1.7.
- 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 and do not have to meet the associate degree admission requirements.

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:

- Be 18 years or older to meet the compulsory school attendance requirement in South Dakota; **AND**
- Complete the General Educational Development (GED) test credential with the following minimum test scores:
 - 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.
 - 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);
 - 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);
 - 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);
 - 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 of 45 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:

- 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 Admission section where course requirements have not been met; **OR**
- 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:

- Meet associate degree admissions requirements depicted in the Freshman Admission section

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:

- Complete at least 15 credit hours of the system general education requirement with a 2.0 GPA; **AND**
- 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, HiSET, or TASC 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. Students must meet admission requirements outlined in SDBOR Policy 2.2.1.6.A.

Regental Policy for Seamless Transfer of Credit

(SDBOR Policy 2.2.2.1)

The purpose of the policy is to outline flexible pathways for students to transfer among institutions within and from outside the Regental system to enable their opportunities for success.

The goal of transfer credit decisions, regardless of whether the credits were completed at an accredited institution, is to ensure that all degree-seeking students have met the same (or appropriately similar) curricular requirements upon graduation.

When evaluating transfer requests, the institution will consider the accreditation status of the sending institution as well as whether the academic program, level of study, and course content are similar in nature and applicable to the academic program of the receiving institution.

Grading schemes inconsistent with the Regental system grading scheme will be converted to the Regental equivalent.

Credit is only applied once per course per degree on a semester credit system; any course taken multiple times will be treated according to the Regental system repeat policy.

Credit for prior coursework is evaluated for transfer based on the following policies. The policies are established to meet specific student needs.

- SDBOR Policy 2.2.2.2 – Internal (within the Regental system) Transfer
- SDBOR Policy 2.2.2.3 – External (Non-Regental) Accredited Institution Transfer
- SDBOR Policy 2.2.2.4 – External (Non-Regental) Non-Accredited and International Transfer
- SDBOR Policy 2.2.2.5 – Credit for Prior Learning

Minimum institutional credit requirements to earn an academic credential (certificate or degree) are identified in BOR Policy 2.6.1. All other credits beyond the required threshold as provided in SDBOR Policy 2.6.1 are eligible to be satisfied through transfer credit.

There may be a need to request waivers for programming and student needs. Students should contact their advisor for guidance on the appropriate process.

South Dakota Regental System Transfer of Credit

(SDBOR Policy 2.2.2.2)

The Board of Regents governing the six public universities has established a common course catalog and common transcript to ensure that a Regental student can seamlessly transfer within the Regental system. All Regental coursework, credit hours and grades are recorded on the student's transcript.

Transfer of Credit within the Regental System

General Education Transfer and Common Course Transfer

- Students who complete the System General Education Requirements (SDBOR Policy 2.3.7) at any Regental institution will have fulfilled the System General Education Requirements for their degree program. The completion of the requirements will internally transfer with the courses, credit hours and grades assigned regardless of the course distributions or approved course lists.
- Students who complete system common courses will internally transfer with the courses, credit hours and grades assigned regardless of the Regental institution.
- A student who has not completed all System 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.

- All prerequisites for associate and baccalaureate programs must be completed as determined by the student's degree plan.

Major Specific, Validated, and Elective Transfer

- Students completing an internal transfer within the Regental system can request that program/major related, validated credits, and elective credits be applied toward the degree/graduation requirements (see SDBOR Policy 2.6.1 for graduation requirements).
- Credits earned through Pass/Fail grading options, credit-by-examinations, portfolio reviews, and other validated credit awards that may be known by other names at institutions will transfer as equivalent courses when available at the receiving institution.
- Students needing information on minor and dual majors requirements shall review SDBOR Policy 2.3.2 (for transfer purposes).

External (Non-Regental System) Accredited University/College Transfer of Credit

(SDBOR Policy 2.2.2.3)

The Board of Regents governing the six public universities has established a policy on the transfer of credits from accredited external universities and colleges. Students will be required to complete all requirements as outlined in the academic catalog.

The SDBOR defines an accredited institution as holding accreditation from one of the following institutional accrediting bodies, unless otherwise specified: Middle States Commission on Higher Education (MSCHE), New England Association of Schools and Colleges (NEASC), Higher Learning Commission (HLC), Northwest Commission on Colleges and Universities (NWCCU), Southern Association of Colleges and Schools Commission on Colleges (SACSCOC), WASC Senior College and University Commission (WSCUC).

Undergraduate Transfer

Independent General Education/Common Course Transfer

- All individual general education courses will have a course evaluation.
- Approved equivalent courses and grades are recorded on the transcript; once the course is recorded, the equivalency will not change.

Block General Education Transfer

- A student who has completed general education requirements that are consistent with the six (6) goals and credit hour requirements outlined in SDBOR Policy 2.3.7 will enter the Regental system having fulfilled the General Education program requirements.
- A student who has completed a bachelor's degree at an accredited institution will have successfully completed the General Education Requirements.
- Degree and graduation requirements to meet one of the System General Education Requirements (SGR)s may stipulate that students' complete credits/courses toward the degree program. Any such requirement will be outlined in the program articulation agreement.
- Approved transfer courses, number and name as well as grades are recorded on the transcript. Credit will be identified in the student information system that general education has been satisfied and transcribed.

Program Major Specific, Elective Transfer

Independent Major, Common, or Elective Courses

- The university-specific degree or plan of study requirements determine if the requested courses are applicable to the student's degree program at that university and if they meet the minimum grade criteria required by the program.
- University discretion is permitted in acceptance of courses.
- Approved transfer courses will be entered into the student information system, the equivalency will not change once approved.
- Remedial courses (as identified on the sending institution's transcript) received in transfer are recorded, transcribed, and assigned an equivalency. Remedial courses transferred will not be applied toward a student's graduation requirements.
- Approved courses, grades and credit hours are recorded on the transcript.

Major Specific Block Transfer of Credit by Articulation Agreements

- Universities may enter into an articulation agreement including transfer of a cluster of courses for block credit toward the student's degree program with the approval of the Board of Regents.

- Following a course evaluation ensuring the agreement was adhered, credits will be transferred as a block and a grade of CR applied.
- All approved equivalent courses and credit hours are recorded as a block on the transcript; the grade earned at the sending institution is not recorded or calculated into the grade point averages.
- Students and the receiving university may utilize a course-by-course equivalency upon request instead of the block credit.

Program-to-Program Transfer by Articulation Agreements

- Universities may enter into a program-to-program articulation agreement with the approval of the Executive Director, or designee, and the Board of Regents.
- A program-to-program agreement may provide for proactive/guaranteed admission to the receiving institution upon a student completing the requirements at the sending institution. (i.e., Associates to Bachelors [A2B] where the first two years are completed at a non-baccalaureate institution [AS degree] toward the receiving institution's baccalaureate degree).
- A program-to-program agreement will define the requirements of the program, major emphasis, credit hours received and a pathway to degree attainment.
- Approved transfer courses, grades, and credits hours are recorded on the transcript.

Reverse Transfer

- Universities may enter into an articulation agreement for reverse transfer with the approval of the Board of Regents.
- Reverse transfer is utilized primarily for attainment of degrees through credits earned at the receiving institution and degree awarded by the sending institution. This reverse transfer can be utilized for any academic credential as defined by the agreement.

Graduate Program Major Specific and Elective Transfer

- The receiving university-specific plan of study requirements determine if the course requests are applicable to the student's degree program.
- Transfer credits will have a course evaluation completed by the receiving institution.
- After the course evaluation is completed, courses will be recorded as either specific major course equivalencies or courses may be recorded as electives, and equivalencies granted.
- Approved grades and credit hours will be recorded on the transcript.

External (Non-Regental System) Non-Accredited

University/College and International Transfer of Credit

(SDBOR Policy 2.2.2.4)

The Board of Regents governing the six public universities has established a policy on the transfer of credits from non-accredited external universities and colleges and international transfer. This policy shall only include those sending institutions that are nonaccredited institutions or international institutions.

Undergraduate/Graduate Transfer of Credit

Independent General Education Transfer

- University discretion is permitted in acceptance of general education courses.
- Courses considered for transfer are subject to all SDBOR policies and any conditions for validation that may be prescribed by the receiving institution.
- All individual general education courses requests for transfer will have a course evaluation. Approved equivalent courses and grades are recorded on the transcript; once the course is recorded, the equivalency will not change.

Major Specific, Validated Credit and Elective Transfer of Credit

- The receiving university discretion is permitted in acceptance of courses. All degree requirements determine course transfers.
- Major specific and elective courses considered for transfer are subject to all SDBOR policies and any conditions for course evaluation and validation that may be prescribed by the receiving institution.
- Approved transfer courses will be entered into the student information system, the equivalency will not change once approved.

Credit for Prior Learning

(SDBOR Policy 2.2.2.5)

The Board of Regents supports credit for prior learning by encouraging institutions to employ effective and efficient practices rooted in nationally recognized best practice standards to maximize awarding degree-relevant, college-level coursework to students. Recognizing the assets and capabilities of students

through acceptance of credit for prior learning promotes access for South Dakotans. Therefore, institutions shall apply toward admission eligibility, course prerequisites, and/or degree requirements, academic credit earned outside of a traditional higher education setting.

Policy Statements and Standards

- Credit for prior learning shall be awarded for college-level learning which entails knowledge, skills, and competencies that students have obtained because of their prior learning experiences.
- Credit for prior learning shall be reviewed for students who have been admitted to one of the six Regental institutions and have a declared major.
- Credits earned through Credit for Prior Learning must apply to the student's declared program (major, degree, certificate) at the institution where the student is admitted.
- Credit for prior learning shall not be awarded for a course that is already on the student's academic record by any of the six Regental institutions.
- Credits earned through Credit for Prior Learning will be transcribed as transfer credits, with a grade of "CR".
- Credit earned and awarded through Credit for Prior Learning will not have any quality points awarded and will not be calculated in the grade point average or completion rate.
- Credits earned through Credit for Prior Learning are transcribed in the current semester for which they were approved and awarded (not the term they worked, experienced, or participated in the activity).
- Credits earned will not be counted in the student's semester enrollment calculation, nor are they eligible for financial aid.
- Regental institutions shall abide by the established minimum scores for standardized exams, as documented in published guides.
- Regental institutions shall utilize the established minimum credit recommendations documented in published guides.
- Regental institutions shall ensure graduate-level institutional policies allow for acceptance of credits earned through Credit for Prior Learning as part of existing transfer credit policies.
- Credits earned through Credit for Prior Learning are considered transfer credits. Undergraduate credit requirements for graduation are identified in SDBOR Policy 2.6.1 and SDBOR Policy 2.2.2.1; no additional or separate limitation beyond the limit identified in that policy, is placed on credits earned through Credit for Prior Learning.

Prior Learning Transfer of Credit

As with the assessment of classroom learning, the objective of prior learning assessment is to identify student competency related to a specific set of learning outcomes. This policy applies to transfer students and currently enrolled students.

General Requirements

- There are five (5) accepted practices approved by the Board of Regents on credit for prior learning.
 - Industry/Professional Certification or Training: Includes, but is not limited to any non-collegiate training programs that result in industry certification, professional licensure, skill development, apprenticeship completion, and other work-based learning programs, etc.
 - Joint Services Transcript: Includes, but is not limited to rank, occupation, military education, training, military occupation, etc. as documented on the JST.
 - Portfolio: Conducted through a designated third party, unless it is for graduate-level course credit, or a subject/discipline that the third party does not offer.
 - Published Guides: Includes but is not limited to the ACE National Guide to College Credit for Workplace Training, the ACE Military Guide, and the National College Credit Recommendation Service (NCCRS).
 - Credit by Examination: Includes standardized exams and institutional challenge exams.
 - AP – Advanced Placement (CollegeBoard)
 - CLEP – College Level Examination Program (CollegeBoard)
 - DLPT – Defense Language Proficiency Test (Defense Language Institute)
 - DSST – DANTES Subject Standardized Test (Prometric)
 - GED – General Education Development Test (GED Testing Service)
 - Institutional Challenge Exam – Institutionally-developed exam (Regental Institution or Non-Regental Institution)
 - IB – International Baccalaureate Diploma Program (International Baccalaureate)
 - UExcel – Excelsior University

- Fees will be assessed for awarded credit through the fee schedule.

Application of Policy

To facilitate Regental institutions being responsive to the rapidly evolving nature of Credit for Prior Learning, guidance to Regental institutions about the application of policy requirements shall be done through Academic Affairs Guidelines. The standards and procedures shall be accepted by all institutions and operationalized for the Information System.

Articulation Agreements

Technical college 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 SDSU for an evaluation of their program objectives and technical college transcript. An individual evaluation of course credits will be made in accordance with institutional and Board of Regents policy.

South Dakota State University has established articulation plans with a number of technical college programs. Articulation agreements also have been established with tribal colleges, regional community colleges, other colleges and universities, and selected international educational institutions. Students should contact their academic advisor with questions about articulated courses.

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:

- Admissions Application
- Official or unofficial 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 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.

Applicants outside of the U.S. must complete applications and submit documentation by July 1 to be considered for fall admission and December 1 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 Office of International Affairs for the application packet and further information.

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 Education 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.

The Board of Regents governing the six public universities has established a policy on the transfer of credits from non-accredited external universities and colleges and international transfer. This policy shall only include those sending institutions that are nonaccredited institutions or international institutions. Refer to the section above regarding External (Non-Regental System) Non-Accredited University/College and International Transfer of Credit (SDBOR Policy 2.2.2.4).

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.

- 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.
- All international NNES undergraduate students who do not meet minimum Accuplacer scores (263) 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).
- No student shall enter ENGL 101 without successful completion of ENGL 039 or required Accuplacer scores.

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 placement requirements may be obtained from the Testing Center.

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, and Financial Assistance

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, and Other Expenses

Tuition and 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 SDSU Tuition and Fees webpage.

Residence Hall and 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.

Residency Requirements

In order to establish residency for tuition purposes you must live in South Dakota for twelve (12) consecutive months immediately preceding the first scheduled day of classes of the semester. Attendance at the college or university controlled by the Board of Regents does not count in determining the twelve (12) month period of residence.

Residency qualifications for tuition purposes may be obtained by contacting the Admissions Office at 605-688-4121.

Billing and 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 or other individuals to view the eBill and make an ePayment on their student account.

Each student will make full payment of charges based on number of registered credits, residency status, campus housing and other charges by the day after census date. Late fees will be assessed starting on the day after the established payment due date. SDSU encourages students to make payments through SDePay electronic checks. Payment of tuition and fees can also be made by cash or check 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 2.85% service fee is assessed by and payable to NelNet, host provider of SDePay. No service fee is charged for electronic check payments. 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.

Automatic payment plan options are available online through SDePay with a \$45 set up fee per semester. The monthly payment amount would automatically occur on the fifth of the month to pay the balance throughout the semester. Please visit the Cashier's Office webpage for more information.

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 until the indebtedness is paid. This applies to your indebtedness to the University for tuition, fees, required deposits, room and board, and 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 debtor will be responsible for all collection fees and attorney's fees that result from collection of an account.

Special Tuition Rates

(SDBOR Policy 5.5.1)

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, Illinois, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, Wisconsin, 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, school counselors, 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.

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 and 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% of the term ends or the day following the first class meeting, whichever is later.

Refunds for Dropped Courses

A student receives a 100% 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 are considered non-standard courses.

Students who withdraw, drop out, or are expelled within the drop/add period receive a 100% 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% 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% 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 and 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% 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% of the unused flex dollars at the time of withdrawal up to the 60% point. After the 60% point no refund is available.

Refunds for First Day Access Charges

A student receives a full refund of First Day Access charges for courses dropped within the drop/add period. No refund will be provided for charges related to courses dropped after the drop/add period has ended. 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 and 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 and Refunds

Course Grade	Weeks Remaining in Standard Semester	
	More Than 4 Weeks	Less Than 4 Weeks
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 on Room and Board

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

Refunds for Books

Refunds for books for military personnel called up for active duty are 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.

Return of Funds for Federal Financial Aid Recipients

When a student receiving Federal Title IV financial aid officially withdraws from SDSU, the amount of Title IV funds (excluding Federal Work-Study earnings) the student earned during the enrollment period is prorated as of the student's withdrawal date. Students earn Title IV funds based on the percentage of days completed through the 60% point in the enrollment period. Once a student has completed more than 60% of the enrollment period, the student has earned 100% of Title IV funds.

If a student withdraws before completing 60% of the enrollment period, SDSU calculates 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 "F" grades 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% point of the semester. Unearned federal aid is returned to the respective federal aid programs. If the aid was disbursed after the 50% point of the semester, the student will be required to return 100% of the funds.

Title IV Financial Aid includes Federal Direct Loans, Federal Pell Grants, Direct Plus Loans, Federal TEACH Grants, Iraq Afghanistan Service Grants, and Federal Supplemental Educational Opportunity 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.

Students may also be considered to have withdrawn from the University if the student is attending modular classes (such as summer courses) that do not span the entire length of the term, and the student fails to complete all of the days the student is scheduled to attend. Exceptions are made for students who complete their programs of study during the term, complete at least half-time enrollment during the term, or complete modular courses spanning at least 49% of the term or semester. For additional information please refer to the Return of Title IV Funds Policy.

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 Aid

The majority of SDSU students receive financial aid 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 Student Aid Index (from FAFSA) from the student's cost of attendance. Cost of Attendance is an estimate of what a student might need to cover tuition, fees, books and supplies, food, housing, transportation, and miscellaneous expenses during their enrollment. Students may not receive financial aid that exceeds their costs of attendance.

SDSU's awarding methodology gives priority for Federal Supplemental Grant, Federal Work-Study, SD Freedom Scholarships, and SD Educational Access Foundation Grants to students completing the FAFSA before March 1. 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 by completing the FAFSA. Please refer to the SDSU website for information about applying for financial aid, financial aid policies, and forms.

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 for all federal programs other than the Pell Grant program
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. 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.
6. Submit a FAFSA for the award year and meet all Verification and other FAFSA requirements
7. Meet all other federal and institutional requirements

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.

Satisfactory Academic Progress

To receive Federal Title IV Financial Aid, students must meet the University's Satisfactory Academic Progress Standards. Generally, to meet the standards, students must

- Maintain a cumulative GPA of 2.0 or better for undergraduate programs and of 3.0 or better for graduate programs
- Complete with a passing grade 67 percent of the credits attempted
- Complete the degree program with credits attempted that are not greater than 150 percent of the credits required for the degree program

Satisfactory academic progress is calculated annually at the end of the spring term for students enrolled in programs greater than one year in length. For students in programs that are one year or less in length, Satisfactory Academic Progress is calculated at the end of each term. Students who fail to meet Satisfactory Academic Progress Standards will be suspended from receiving Federal Financial Aid.

Suspended students may appeal to continue receiving financial aid. Appeals must document the mitigating circumstances that prevented the student from being successful as well as the changes that have occurred that will allow the student to be successful going forward. Appeals are reviewed by a committee. Students will be notified of the outcome of the appeal in their Jacks email account. It may take up to four weeks for appeals to be reviewed, and student bills cannot be deferred pending the outcome of the appeal. The appeal form can be found on the Financial Aid Forms page.

Please refer to the University's Satisfactory Academic Progress policy to view the full policy.

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 Student Aid Index (SAI) 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. Students may need to be enrolled in a minimum number of credits to receive a Pell Grant.

- 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 SAIs 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 include 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 undergraduate Nursing majors who demonstrate financial need and meet SDSU's awarding guidelines. Interest rates are fixed at 5%, 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 meet SDSU's awarding guidelines. Interest rates are fixed at 5%, 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 and 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. Students receive funds through a monthly paycheck that is based on the hours worked at a qualifying job.
- Non-Work-Study and Work-Study campus jobs are posted on Handshake the Office of Career Development's online job board.

Scholarships

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

South Dakota residents who attend SDSU may qualify for the scholarships listed below.

- 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.
- South Dakota Freedom Scholarship for students who plan to complete a bachelor's degree within five years and intend to live and work in South Dakota for at least three years after graduation. The South Dakota Freedom Scholarship is need-based and has limited funding. Student eligibility is determined based on a combination of FAFSA information, unmet financial need, and availability of funds. Students who receive the scholarship and do not complete their bachelor's degree in five years or do not work in South Dakota for the three years following graduation will be required to repay the scholarship plus interest.

Through the Jackrabbit Guarantee Scholarship 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 annual Jackrabbit Guarantee award for first-time first-year students who enroll summer or fall 2025 or spring 2026 is \$1000. The SDSU academic scholarships used to fulfill the scholarship guarantee vary by name, and a student may receive more than one scholarship to fulfill the guarantee, and different scholarships may be used to fulfill the guarantee in subsequent years.

Talent and participation scholarship awards are available through SDSU ROTC, Athletics, School of Performing Arts, and other on-campus entities.

SDSU scholarship 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 email for specific applications, forms, and information. Additional information can be accessed on the SDSU website.



Student Services and Resources

Admissions

Enrollment Service Center
605-688-4121

The Office of Admissions at SDSU serves as the primary gateway for prospective undergraduate students and their families, oftentimes offering them their first introduction to the university. Overseeing SDSU's student recruitment and enrollment efforts, the office is responsible for recruitment, visit planning and admissions processing – ensuring a seamless and engaging experience for all prospective students and guests.

Each year Admissions hosts a diverse range 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 recruitment and marketing communication, personalized and productive visit experiences, and effective admissions and enrollment related services, that will foster optimistic and accurate expectations about SDSU. The Admissions Office also administers new student scholarships, further supporting incoming students in their educational journey at SDSU. By cultivating a welcoming and supportive environment, the office enhances the students' readiness for success as they transition to campus as new Jackrabbits.

American Indian Student Center

920 Campanile Ave
605-688-6416

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 recruitment for Native American students, success advising, and cultural programming.

Army ROTC (Reserve Officers' Training Corps)

DePuy Military Hall - 1150 Campanile Ave SDSU Campus
605-688-6151

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.

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. The Office offers career services such as resume reviews, cover letter editing, interview preparation, mock interviews, career fairs and workshops, as well as workshops. In addition, the Office manages several technology platforms that benefit students online for students on and off campus:

- FOCUS 2 Career- online assessment that provides students narrative feedback of their skills, interests, potential majors and careers, and their career readiness.
- Handshake- online job board that also contains a resource library of resume templates, checklists, and instructional videos
- office website Office of Career Development | South Dakota State University which provides additional resources, blog content on specific career paths, and focused career pathway job listings.
- VMock - Career Acceleration Platform is an AI resume coach that provides students with detailed feedback on their resumes based on the Office's templates and guidelines. This resource is available to all students twenty-four hours a day.
- Career Connections Podcast- this podcast provides focused discussions on career development topics. Each episode is informative for faculty, staff, and students. The episode can be used solely as information, or as supplemental help in advising students.

Cashier's Office

Morrill Hall 136
605-688-6116

SDSU Cashier's Office manages tuition and fee related processes and questions including: assisting students with questions about their billing accounts, providing information on all charges and payments applied to student billing accounts, processing student payments and refunds, and managing student billing accounts receivable (payment past due) 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.

Continuing and Distance Education

West Hall 120
605-688-4154

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. 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 collaborates with the academic units to broaden the reach of SDSU, with a commitment to providing quality education no matter where students reside. Coursework and programs offered off-campus and online 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

605-688-5309

Campus dining is a substantial part of the college experience. The goal of Jack's Dining is to make each customer's experience the best it can be by providing tasty, nutritious food in a comfortable atmosphere. Excellent customer service which helps you connect with other students and the campus community is a goal with each visit to an on-campus dining site. Sites include Qdoba Mexican Eatery, Slices Pizzeria, These and Those Noodles, Simply Serve which emphasizes an allergen-free menu, and Mein Bowl an Asian cuisine site. Old favorites such as Chick-Fil-A, Dairy Bar, Einstein's s Bagels, Erbert and Gerbert's, Starbucks, and various C-Store locations are all eager to serve you.

Disability Services

Student Union 271

605-688-4504

The Office of Disability Services recognizes that disability is an integral part of the university community and broader society. In alignment with this, ODS works collaboratively with students, faculty, and staff to ensure students with disabilities have equal opportunity in all programs and activities and will take such steps as necessary to achieve that goal.

Financial Aid and Scholarships

Enrollment Service Center

605-688-4695

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 scholarships. Awards are based on academic achievement, talent and participation in activities. 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.

Work Study

605-688-4695

The Federal Work-Study Program is a need-based financial aid program providing eligible students the opportunity to earn money for educational expenses. Work-Study is offered to first-year students who complete the FAFSA on or before March 1 and meet additional requirements established by the Financial Aid Office. Continuing students who earned Work-Study wages in the current year are given priority consideration for Work-Study in the subsequent year. Students are

responsible for obtaining employment through the Office of Career Development or through direct inquiry with campus departments or facilities.

Hilton M. Briggs Library

605-688-5107

The Hilton M. Briggs Library is a center for learning, research, preservation, and discovery. It is committed to fostering 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 in the building consist of group and individual study rooms, conference and seminar rooms, over 260 individual study carrels, 38 public access computer stations, 23 monitors with laptop hookup capability, laptops and other technology available for loan, printers, scanners, and photocopiers, 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

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

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. Jack's Cupboard has a Foundation account and students, faculty, and staff are invited to make a monetary donation through 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 and 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.

Jackrabbit Central

Student Union

605-688-4163

Jackrabbit Central, the official store of South Dakota State University. Located within the University Student Union, we offer the largest selection of licensed SDSU Jackrabbit apparel and gifts both in-store and online. We also offer textbooks, school supplies, course materials and services related to campus life for students, faculty, staff, alumni and friends of the University.

For more information and hours of operation please visit our website www.JackrabbitCentral.com.

Math Help Center

Architecture, Mathematics and Engineering 292

The Math Help Center provides free walk-in tutoring for students in MATH 101, 103, 114, 115, 120, 121, 123, 125, and STAT 281. Hours are posted on the website. No appointment is necessary, but there are some times available for half-hour one-on-one appointments, which can be signed up for via ConnectState. The Math Help Center is a great environment for working on your math homework.

MyJacks Card

Student Union 140

605-688-6943

The Card Services 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. The MyJacks Card mobile credential allows students access to their dining plan, Hobo Dough, and campus events, as well as door access to certain halls and buildings.

Lost/Stolen Credentials

Mobile Credential (ID card on your mobile device)

MyJacks Card Policy

MyJacks Card Credentials | South Dakota State University 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 credential.

New Student Orientation

605-688-6283

By choosing SDSU, you've opened yourself up to endless opportunities and a fantastic future. It all starts 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 Multicultural Affairs and Accessibility

Student Union 271

605-688-5585

The Office of Multicultural Affairs and Accessibility (OMAA) is committed to ensuring that all students have access to academic excellence, a safe and supportive environment, and leave prepared to lead in their careers and communities. OMAA supports the university's mission by enriching students' social, cultural, educational, and recreational experiences through student success advising services, accommodation services for students with identified disabilities, student leadership opportunities, educational programming, the National Student Exchange program, and more. For more information on what the OMAA has to offer, and to view the calendar of events, please visit their website.

Parking Services

1421 Student Union Lane---In Student Union Room 140

605-688-7275

The SDSU Parking Services Office is responsible for the administration and enforcement of the Parking and Traffic Regulations on the SDSU campus. To purchase 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 and Regulations

The Parking Services | South Dakota State University have been recommended and approved by the SDSU Parking and Traffic Committee, the Vice President of Finance and 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 and Traffic Regulations prior to parking your vehicle on campus.

Registrar

Enrollment Services Center

605-688-6195

The Registrar's Office, also referred to as Records and Registration, is the guardian for official institutional academic records. The office provides a variety of services and information to students, advisors, faculty, and academic units in support of students achieving academic goals. Many student services are available via online Self Service, including registration, dropping and adding courses, changing an address, submitting a preferred name, applying for graduation, and accessing enrollment verifications, grades, degree audits and transcripts. These services, and more, can be accessed from the Dashboard on MyState.

Class Schedules and Important Dates, including drop and add deadlines, are available on our website.

The Registrar's Office also provides services for transfer of credit, major changes, graduation, and production of the semester course schedule. Students for whom plans change should contact the Registrar's Office to initiate a university withdrawal. Students who miss a registration related deadline due to extenuating circumstances may be able to petition for a backdated drop or add. Refer to our forms web page for access to petition forms.

The Federal Educational Rights and Privacy Act (FERPA) protects the privacy of student education records and affords rights to students. The Registrar's Office is committed to maintaining the privacy and confidentiality of education records in accordance with the provisions of FERPA. SDSU's FERPA policy and FERPA Release Form are available in the SDSU Policy and Procedure Manual.

Residential Life

Caldwell Hall 167

605-688-5148

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 members of the student body. They meet every Monday night at 7:00pm in the Lewis and 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. Elections are held every March and all enrolled students are eligible to vote for their college representative(s), president and vice president.

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 are members of the Students' Association.

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 Conduct 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 (SDDLRL) 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 SDDLRL.

Please contact the Office of Career Development for more information.

Contact Office of Financial Aid and Scholarships | South Dakota State University for questions about work study eligibility.

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

Graduate Assistants

605-688-4173

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

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

The SDSU Students' Association employs legal counsel, who can provide legal aid to students. This legal counsel cannot represent you in court or advise you on matters against the State of South Dakota, the South Dakota Board of Regents, or South Dakota State University, however, they can advise you on legal practices. They can assist you with rental agreements, citizenship procedures, and other legal matters. To book an appointment, please stop by or call the Students' Association Office or send an email.

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

The U.S. Department of Education and the Higher Learning Commission require institutions to publish student achievement data on a public website. The SDSU Student Outcomes website is managed by the Office of Institutional Research and Assessment and includes graduation rates, retention rates, licensure rates, job placement, loan debt and default rates, subsequent enrollment, and other types of student learning outcomes.

Support Desk

Morrill Hall 131

605-688-6776

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 and Services

605-688-4136

By including sustainability on campus, SDSU joins the world's efforts to provide a better future. Here at SDSU, Facilities and 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:

- Registration Self Service: register for courses
- Financial Aid Self Service: access your financial aid info
- Student Account Self Service: student billing functions
- Degree Works: track degree progress
- Student Profile: grades and academic history
- Also: housing app and meal plan selection, parking account, textbooks, health clinic appointments, scholarship app, Testing Center and other shortcuts.

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

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.

Zoom is used for Video Conferencing.

Jacks Club Hub is used for the Student Clubs and their events information.

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

For technology support and technology related questions, please contact the Support Desk at 605-688-6776 or submit a ticket at help.sdstate.edu.

Testing Center

1100 College Ave.- SDSU Campus

605-688-6460

The mission of the South Dakota State University Testing Center (SDSTATE-TC) is to assist individuals in reaching their academic and professional goals by providing a secure, friendly and comfortable environment where exams are administered, proctored, and scored with integrity. The SDSTATE-TC adheres to the standards set forth by the National Collegiate Test Association Professional Standards and Guidelines.

The SDSTATE-TC has 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, and accommodated 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 that were taken or completed after your high school graduation date. 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, tutoring, 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 for more information or email sdsu.trio@sdstate.edu to request an application.

University Police Department

University Police Department

605-688-5117

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, 2 Corporals, 7 full-time police officers and 7 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

Everbridge

University Student Union

University Student Union (USU)

605-688-4960

Designed with students in mind, the SDSU University Student Union (USU) in the heart of campus is constantly buzzing. The USU 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

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 and Sorority Life, (FSL); University Traditions, Hobo Day, and State A Thon; and University Program Council, the primary student event planning organization.

BluePrint

Student Union 056

605-688-5496

BluePrint is an award winning, student-driven, design and print center. We are committed to exceptional customer service, quality design and printing, the promotion of campus events and creating an environment where students in the School of Design can further their skills.

Digital displays, interior banners and exterior T-stands found in and around the University Student Union are all promotional spaces reserved and designed by our talented graphic design students. Our team is also available to assist customers with custom projects such as posters, handouts, logos, promotional buttons, brochures, event programs and more.

Don't need design work? We can also assist with simple walk-in printing needs for homework and other class projects. Find us located in the lower level of the University Student Union.

Central Reservations

Student Union 150

605-688-4022

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 and envelope sales, campus maps, and event ticket 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 delivers dependable, full-service audiovisual support for university events of all sizes. We provide high-quality sound systems, video, lighting, and stage equipment to ensure impactful presentations and lasting memories. From

meetings and campus film nights to student programs and large-scale productions, our team manages and operates the AV technology to meet the diverse needs of the university community—efficiently and affordably.

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 associated with online learning; such as, but not limited to, 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

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 is a proud supporter of our military students and their family members.

Miller Wellness Center

Miller Wellness Center

605-697-9355

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, 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

Recreation and Fitness at the Miller Wellness Center serves all students and the greater University community by encouraging self-discovery and enriching lifelong wellbeing. We are driven to develop leaders and strengthen relationships through engaging programs and welcoming spaces accessible to all. We offer a wide range of services and opportunities to support your goals and help you stay active and connected—including Sport Clubs, Intramurals, Nutrition Services, Outdoor Programs, Group Fitness, Aquatic Programs, and Personal Training.

Student Health Clinic and Counseling

Miller Wellness Center

605-688-4157

Mission Statement: The South Dakota State University Student Health Clinic is dedicated to providing cost-effective, evidence-based health care tailored to students, promoting well-being and academic success within a respectful setting. Appointments can be made by calling 605-697-9355 and selecting option 3. Appointments are also available online by going to your MyState account and accessing your Jackrabbits Health Clinic and Counseling Portal. The Student Health Clinic provides primary care, reproductive health, adult immunizations, vaccines, and nutrition counseling.

Immunization Requirements and 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

Counseling Services

Mission Statement: The SDSU Counseling Center is dedicated to fostering our student body's holistic well-being and academic success. We aim to empower students to navigate personal and academic challenges, develop resilience and achieve their fullest potential through compassionate, confidential, and culturally sensitive support. By offering a range of counseling services, workshops, and resources, we strive to create an environment that promotes mental health awareness, personal growth, and a balanced life, ensuring that every student has the opportunity to thrive in their educational journey and beyond. Counseling Services utilizes stepped care as a mental health service delivery model to meet the needs of students. Daily walk-in mental health screenings allow students to meet with a counselor at the time of their need rather than at the availability of an opening in a counselor's schedule. The stepped care model is a holistic and collaborative approach focused on students' strengths and is based on a short-term, solution-focused approach. The services provided through the stepped care model are individualized for each student rather than based on a one-size-fits-all approach. The SDSU Counseling Center prioritizes collaboration with the campus community and the greater Brookings Community to meet the needs of students.

Wintrade Student Success and Opportunity Center

605-688-4155

The Wintrade Student Success and Opportunity Center is a hub for everything related to your success as an SDSU student. Through various programs and Study Hub, the Wintrade Center provides tips and resources for students that help them gain the skills they need to move forward with confidence.

First Year Advising

Most first-year students are advised in the First Year Advising Center. Professional academic advisors in the First Year Advising Center help students with their transition to college, employing a holistic approach to support students beyond academics. Do you have questions about your major, courses you should take, study skills, or how to get involved on campus? Your advisor can help you create a plan that to achieve your goals.

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. Notifications begin in the first week of each semester and continue throughout the term.

Tutoring

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

How to Schedule an Appointment

Supplemental Instruction

Supplemental Instruction (SI) is a series of twice-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. SI sessions focus on integrating what to learn with how to learn it. Students who attend SI earn, on average, one-half to one full letter grade higher than students who don't participate.

Academic Success and Recovery

The Academic Success and Recovery Program supports students who are on academic probation or are returning after an academic suspension. If you work with the Academic Success and Recovery Program, you will enroll in either ACS 111 - Strategies for Academic Success, or ACS 140 - Academic Recovery, courses

that help you develop learning and self-management skills. You will also have access to success advising, peer mentoring, or individual counseling.

Success Advising

Contact the Wintrode Center to schedule an appointment with a Success Advisor. Success Advisors can help you create an academic success plan to develop your academic skills. Key areas of emphasis include time management, study habits, and building relationships with faculty and staff.

Opportunity Center

The Opportunity Center embraces SDSU's land-grant mission by supporting educational access for all students. We strive to facilitate student experiences and connections to help you achieve your academic and personal goals. Through development of an interconnected Student Success NETwork, the Opportunity Center works with campus partners to facilitate referrals that support students' holistic needs, enhancing each student's opportunity for success.

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.

Undergraduate and graduate students can schedule an appointment on ConnectState.



Policies and General Academic Information

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 provide a rich academic experience in an environment that promotes access and opportunity through inspired, student-centered education, creative activities and research, innovation, and engagement that enhance 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 (NACADA: The Global Community for Academic Advising, 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

- Assist students in the exploration and definition of immediate and lifelong goals.
- Encourage students to explore and engage with beneficial experiences to enhance their university experience and contribute to the world around them.
- 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

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

Responsibilities of the Advisee

- Initiate regular progress appointments and seek advisor assistance when concerns or questions arise.
- Develop and make timely progress on academic and career plans.
- Understand and meet university, college, and department graduation requirements.
- Follow through on activities, tasks, or requirements as discussed with advisor.
- 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 and personal well-being.

Responsibilities of the Academic Advisor

- 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.
- Recognize the Unique Needs of Students. Create an environment that invites different perspectives and allows for open exchanges of information.
- 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 ImageNow (WebNow) to provide targeted advising support for students.
- Furnish Accurate Information. Provide students with accurate information about university, college, and department graduation requirements, and assist them with selecting and registering for appropriate courses that meet those requirements.
- 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.

- 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.
- 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.
- Encourage Advisee Growth. Encourage students to engage in university experiences and opportunities that help them become self-directed and self-sufficient learners.
- Support Student Success and Retention. Assist with achieving positive student outcomes by responding to students' unique academic challenges as identified through interactions with students, early alert, midterm deficiencies, and other communication processes. Engage students in individualized conversations and activities to increase the probability of degree completion.
- 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 2.8.1)

This policy and its procedures implement SDBOR Policy 2.8.1. 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 prior to the most recent admission to the home institution.
- iii. have completed a minimum of twelve (12) graded credit hours taken at any SDBOR 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 an associate or baccalaureate degree from any accredited university;
- v. not have been granted any prior academic amnesty at any SDBOR university; and
- vi. submit the Academic Amnesty Petition Form to the Records and Registration Office following the procedures established by the University.
- vii. Exceptions may be granted in rare cases only by the SDBOR Vice President for Academic Affairs upon recommendation by the University Provost and Vice President for Academic Affairs.

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 by 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 SDBOR system.
- vi. Universities outside of the SDBOR system are not bound by the academic amnesty decisions made by the SDBOR system.
- vii. SDBOR 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. The student will be notified 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 a.ii
 - i. If the student would like to request an exception due to not meeting requirement 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 a.ii. If other requirements are not met, exceptions are not considered.

Academic Integrity and Academic Appeals

(SDSU Policy 2:4, SDSU Policy 3:1, SDBOR Policy 2.9.2, SDBOR Policy 3.4.1)

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 2.9.2, and SDBOR Policy 3.4.1.

Academic Performance and 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 2.8.1)

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, in good academic standing. The Academic Standing process is completed at the end of the fall and spring term. Good academic standing is at or above a cumulative 2.0 GPA.

Academic Probation

The academic standing process shall be completed in each of the Fall and Spring terms. If a student's cumulative grade point average falls below the GPA standard, the student shall be placed on academic probation for the following term(s) until academic progression is processed.

While on academic probation the student must earn a system term 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 internal and external 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.

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 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 2.2.1, Section C.9.7. Students on Probation/Suspension.)

Undergraduate academic progress shall not be notated on the transcript. Institutions may insert academic progress on the graduate transcript.

Rate of Progress

(SDBOR Policy 2.6.1)

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 2.1.1, SDBOR Policy 2.1.2; SDBOR Policy 2.1.3, SDBOR Policy 2.3.2, 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 or a professional academic advisors 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 transcribed 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 2.8.1)

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 2.8.1)

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.

Assessment

Throughout the course of their career at SDSU, students will encounter assessment activities that are either voluntary or required. Examples of activities include standardized exams, surveys, quizzes, and focus groups. These activities are designed for students to enhance learning, faculty to improve instruction, and staff to enhance co-curricular activities and services. Assessment activities uphold our commitment to academic excellence and quality programming. For further information about program assessment, general education assessment, or co-curricular assessment, please contact the Office of Institutional Research and Assessment.

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

(SDBOR Policy 1.6.2)

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 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 Title IX/EO Coordinator.

Complaints and 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 and/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, School Director, 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
Morrill Hall (SAD) 230
Brookings, SD 57007
Phone: 605-688-4173

Academic Appeals Policy

Non-Academic Concern and/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. The online report and hotline are provided by Syntrio. You may choose to remain anonymous when providing information.

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 and 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 2.8.1)

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)

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)

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

(SDBOR Policy 2.4.3)

A credit hour is a unit by which an institution measures its coursework. Federal Law permits an institution to determine the amount of work associated with a credit hour, to consider a variety of delivery methods, instructional methods, measurements of student work, educational experience, outside classroom activity/preparation, disciplines, and degree levels. SDBOR Policy 2.1.1 shall provide governance on the required calendar ensuring instructional time is established to meet credit hour and contact hour requirements. Credit hours are used to convey the length of a program of study.

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.

Repeated Courses

(SDBOR Policy 2.4.2, 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 and applied to degree requirements. This policy applies to both undergraduate and graduate coursework. Relative to number of repeats allowed:

- 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.
- 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.
- 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 2.2.2.1, SDBOR Policy 2.2.2.2, SDBOR Policy 2.2.2.3, SDBOR Policy 2.2.2.4)

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.

An unofficial evaluation of transfer credit can be obtained using the transfer credit evaluation tool, Transferology.

An official evaluation of transfer credit will be completed following a student's admission to the university and reception of all final, official transcripts.

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

Undergraduate Students Taking Graduate Courses

(SDSU Policy 2:22, SDBOR Policy 2.4.2, SDBOR Policy 2.8.1)

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 2.4.2.

Credit for Prior Learning

(SDBOR Policy 2.2.2.5)

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.

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.

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.

A student's AP score reports are sent to SDSU when the student places SDSU's school code (6653) on their test registration application. AP credits will automatically be applied to the transcript 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. If the student successfully completes the examination, the permanent record will show "Credit by Examination" with a grade of "CR". No entry will be made on a permanent record if the examination is failed.

Although Regental institutions accept AP credits, there are many professional schools throughout the country that do not accept AP to satisfy the prerequisite requirements for admission to their program. Due to these varying degrees of value placed on AP courses by professional programs throughout the country, and in order to not unfairly limit students' options upon graduation, it is advised that students seek guidance on this matter from the professional programs to which they intend to apply as well as seek the counsel of their academic advisor.

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 transcribed 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. South Dakota Board of Regents policy on specific courses for which credit is given and other requirements can be found on the website.

SDSU will only receive a copy of a student's CLEP scores if South Dakota State University (6653) is chosen as a score recipient. If the student successfully completes the examination, the student must 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. The permanent record will

show "Credit by Examination" with a grade of "CR". No entry will be made on a permanent record if the examination is failed. Credit by validation can be used to repeat a prior course if the student had earned an unsatisfactory grade in the initial attempt. Meeting the qualifying score for the credit by validation examination is used to establish proficiency for the course, and the "EX" grade will still be applied with the earned grade from the initial attempt still calculated in the student's cumulative grade point average.

CLEP tests may be retaken only following a lapse of three months. For information about taking a CLEP exam or having CLEP credits placed upon your transcript, visit the Testing Center's website.

DANTES Subject Standardized Tests (DSST)

The Defense Activity for Non-Traditional Education Support (DANTES) is a 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 DANTES program information can be found on the Testing Center's website. If the student successfully completes the examination, the student must complete an Application for Placement Credit form found on the Testing Center's website in order to have the credits placed on their academic transcript. The permanent record will show "Credit by Examination" with a grade of "CR". 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 is 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 from other institutions if a grade of C or better was earned. A portfolio may also be used to verify skills learned through prior work experience. 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 portfolio process can be found on the Testing Center's website. 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 CR 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.

Modern Language Buy Down

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, and successfully completes, GER 310 would be able to purchase GER 101 (4 cr.), 102 (4 cr.), 201 (3 cr.) and 202 (3 cr.) for a 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 and SPAN 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 to purchase SPAN 101-202 credits.

Students must apply for this credit by filling out the Application for Placement Credit form found on the Testing Center's website. 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 may apply for credit to be transcribed.

All South Dakota state institutions are required to accept the same examinations and scores set by the South Dakota Board of Regents. Please visit the Testing Center's website for additional AP information.

A student's AP score reports are sent to SDSU when the student places SDSU's school code (6653) on their test registration application. AP credits will automatically be applied to the transcript if the student's score report was sent to SDSU. 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)

CLEP exams are national tests that can be taken at any CLEP-certified testing center, nationwide. 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 for CLEP. As per SDBOR policy, the maximum credit hours allowable for FREN, GER, and SPAN 202 equivalency are 14 credits 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 complete an Application for Placement Credit form on the Testing Center's website in order to have the credits placed on their academic transcript.

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 SGR #4 (Arts and Humanities).

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.

Please contact the School of American and Global Studies (Lincoln Hall 132, 605-688-5101) for a complete list of languages available.

If a passing score is achieved, the student pays a 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.

Additional Prior Learning Credit Options

South Dakota State University awards prior learning credit for other courses/exams including International Baccalaureate and Cambridge International AS and A Levels. Students who have completed certain certifications and training may also be eligible for prior learning credit. Please visit the Testing Center website for more information.

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 and Global Studies (Lincoln Hall 132, 605-688-5101) for additional information regarding placement and credit for prior learning.

Cross-Curricular Skills

(SDBOR Academic Affairs Guidelines 2.3.7.D)

Cross-curricular skills are broad, transferable abilities—such as critical thinking, teamwork, and ethical reasoning—that help institutions intentionally integrate and extend general education learning across students' academic programs. These skills are developed throughout multiple courses and disciplines to support success in academics, careers, and life beyond college. They also serve to connect general education with major coursework in ways that reflect each institution's mission, values, and accreditation standards. In alignment with the AAC&U Essential Learning Outcomes, the South Dakota Board of Regents requires each university program to select and assess at least three to five of the following skills as part of their program-level 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
- Access and Opportunity

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 or an academic advisor.

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.

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 academic transcript.

Registration

Students are assigned a registration time ticket, indicating a registration 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.

Equal Access and Opportunity, Non-Discrimination, and Title IX

(SDSU Policy 4:3, SDSU Policy 4:4, SDSU Policy 4:5, SDSU Policy 4:6, SDBOR Policy 1.4.1, SDBOR Policy 1.4.2, SDBOR Policy 1.4.3, SDBOR Policy 1.4.4)

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.

Equal Access and Opportunity and Non-Discrimination Policy

Equal Access and Opportunity

The institutions under the jurisdiction of the Board of Regents shall offer equal opportunities in employment and for access to and participation in educational, extension and other institutional services to all persons qualified by academic preparation, experience, and ability for the various levels of employment or academic program or other institutional services. The Board of Regents will not tolerate discrimination or harassment based on or related to a person's race, color, creed, religion, sex, ancestry, disability, national origin, or any other legally protected category, class, or characteristic recognized under applicable law.

Non-Discrimination

The Board reaffirms its commitment to non-discrimination and providing equal access and opportunity in accordance with state and federal law. Redress for alleged violations of those laws may be pursued at law or through the procedures established by the provisions of SDBOR Policy 1.4.3 (see also SDSU Policy 4:6).

Responsibilities of Chief Executive Officers

The chief executive officers of the respective institutions shall be responsible for assuring that the Board's equal access and opportunity policies are communicated effectively to members of the institutional community and the public at large. Pursuant to BOR Policy 1.4.3, each institution will designate an EEO coordinator to monitor compliance with federal, state, or local laws and regulations.

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.

SDSU, in conjunction with state and federal law and applicable SDBOR and university policies, is committed to the objectives of equal access and opportunity and nondiscrimination. Redress for alleged violations of those laws may be pursued at law, or through the procedures established in SDSU Policy 4:4 or SDSU Policy 4:6 through the university Title IX/EO Coordinator.

Michelle Johnson, Ed.D., Title IX/EO Coordinator
South Dakota State University
Human Resources, Morrill Hall Room 100
Brookings, SD 57007
605-688-4128

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. Harassment consists of unwelcomed conduct that is severe, pervasive, and objectively offensive to the degree that denies a person's ability to participate in or realize the benefits of a University activity or resource.

Hazing and Sexual Harassment Policy

State and federal laws and policies strictly prohibit hazing and sexual harassment, including sexual assault, domestic violence, dating violence, and stalking. Such misconduct is not permitted or tolerated at SDSU or during university-sponsored events or activities. SDSU Policy 4:4 and SDSU Policy 4:5 set forth standards regarding reports of hazing or sexual harassment 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 Title IX/EO Coordinator (605-688-4128).

Reporting Complaints

Concerns should be reported directly to the Title IX/EO Coordinator.

Michelle Johnson, Ed.D., Title IX/EO Coordinator
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 alleges harassment or discrimination, please encourage them to report the issue or you are required to report on their behalf. SDSU has a legal obligation to respond to all allegations, and requests that all concerns be brought forth. SDSU has many resources and wants to support the entire university community.

The complaint process is subject to the SDSU policies listed below:

- SDSU Policy 4:3 Equal Access and Opportunity and Non-Discrimination
- SDSU Policy 4:4 Sexual Harassment
- SDSU Policy 4:5 Prevention of Dating Violence, Domestic Violence, Sexual Assault, Stalking, and Hazing
- SDSU Policy 4:6 Human Rights Complaints

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.

Family Education Rights and Privacy Act of 1974

(SDSU Policy 3:2, SDBOR Policy 3.3.1, SDBOR Policy 3.3.2)

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 an individual employed by the SDBOR or University, including faculty, staff, contractors, consultants, volunteers, or other parties to whom the University has outsourced services or functions (including law enforcement unit and health personnel), or a Student serving on an official committee, such as a disciplinary or grievance committee, or assisting another University Official in performing their tasks.. A school official typically has a legitimate educational interest if the official has a need to access Student Education Records or PII contained therein for the purpose of performing an appropriate educational, research, or administrative function 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:

Student Privacy Policy Office
U.S. Department of Education
Student Privacy Policy Office
400 Maryland Avenue, SW
Washington, DC 20202-5901

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 (undergraduate or graduate)
- degrees received
- major program of study
- minor program of study
- hometown
- dates of attendance
- 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. as published in the schedule book 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 ii, iii, and iv above, is required to follow the final examination schedule.
 - vi. Five (5) 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 two (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 one (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 University 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 (3) 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 University 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 2.8.1)

The grading system is based on achievement of expectations in a class. Mid-term undergraduate grades will be assigned for all standard full part of term courses unless exempted under AAC guideline 2.8.1.1. Final 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 MyState - Grades and Official Transcripts.

Grade Point Averages

(SDBOR Policy 2.8.1)

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 2.2.2.1).

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 and applied to degree requirements if passed.

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: • fulfillment of the requirements and objectives of the assignment • an excellent, impressive command of content • a clear explanation, development, and application of ideas • independent thought and analysis • thorough and persuasive substantiation of claims • clear and effective organization • precise, fluent, and distinctive expression—written or oral • correct grammar, punctuation, documentation, and format	4.00 grade points per semester hour
B	The grade of "B" ("above average") designates: • fulfillment of most of the requirements and objectives of the assignment • a competent command of content • mostly clear explanation, development, and application of ideas • a capacity for independent thought and analysis, though it is not fully realized • sufficient and mostly persuasive substantiation of claims • mostly clear and effective organization • mostly precise, fluent, and clear expression—written or oral • mostly correct grammar, punctuation, documentation, and format	3.00 grade points per semester hour
C	The grade of "C" ("average") designates: • fulfillment of the major requirements and objectives of the assignment, though minor ones are only partially fulfilled or unfulfilled • an adequate command of subject matter • adequate explanation, development, and application of ideas, though lack of depth is evident • lack of independent thought or sustained analysis • inconsistent substantiation of claims • adequate organization, though lapses are evident • adequate expression—written or oral—though lapses in precision, fluency, and clarity are evident • 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: • insufficient fulfillment of the requirements and objectives of the assignment • an inadequate command of content • insufficient explanation, development, and application of ideas • unexamined, clichéd thinking and little analysis • inadequate substantiation of claims • inadequate organization, making the text hard to follow	1.00 grade points per semester hour

Letter Grade	Descriptor	Grade Point Value
	- inadequate expression—written or oral—with significant lapses in precision, fluency, and clarity - numerous and significant errors in grammar, punctuation, documentation, and format	
F	The grade of "F" ("failure") designates: - a failure to follow or complete the assignment - a failure to control or comprehend the content - a failure to sufficiently explain, develop, or apply ideas - a failure to analyze - a failure to sufficiently substantiate claims - a failure to organize the content, making the text or oral presentation largely incoherent - a failure to write or speak with any degree of precision, fluency or clarity - 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 Dropped 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 institutional 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) or S/U as applicable.

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 institutional Chief Academic Affairs Officer or designee.
- 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

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.

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. At mid-term Last Date of Attendance (LDA) information is only collected if a student receives a mid-term grade of "F." End-of-term 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. Students pursuing more than one major must complete all requirements for the majors as set forth by the academic units involved. Students wishing to complete two undergraduate majors that are offered in separate colleges or schools, or in the same school or college, but within the same degree program structure, must complete all requirements for each related major.

- 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. Degree - 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.
- A minimum of thirty (30) credits of the second degree must not be applicable to the first degree, meaning students will complete a minimum of 150 credits depending on the two degrees chosen.

- Courses may meet the requirements of both degrees provided the overall university requirements are met and the system requirements are met.
- 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.
- Two degrees and two diplomas are issued. Example: B.A. Degree - Major: Spanish; B.S. Degree - Major: Human Biology.

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 minimum 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:

- System General Educational Requirements are not relevant to this scenario.
- 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.
- 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:

- System General Educational Requirements are not relevant to this scenario.
- Completion of all requirements for the additional degree and new major as delineated in assigned catalog of graduation. 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, and Reading Courses

Placement into Initial English Courses

(SDBOR Academic Affairs Guidelines 2.2.1.1.B)

The South Dakota Board of Regents has developed a standardized process for initial placement of students in English composition courses. Students are placed in accordance with acknowledged skills and abilities. Such placement promises a match between student preparation/dispositions and course rigor; it positions students for collegiate success in English, which retains vital importance.

All incoming, degree seeking students at the undergraduate level are initially placed in English courses as established by approved guidelines. Transfer students who have fulfilled general education requirements in English are exempt. For non-degree seeking students, placement is relevant only if students pursue registration in English course work. In such cases, placement procedures do apply.

Initial placement is determined by the English Placement Matrix in Appendix A. Students are placed into either ENGL 101, ENGL 032 (which is taken concurrently with ENGL 101), or ENGL 033.

Course	ACT English Subscores	Smarter Balanced ELA Score	Accuplacer Next Generation Writing Score
ENGL 101 - Composition I (COM) [SGR #1, HSDC]	18 - 36	2583 or higher	263 or higher
ENGL 032 - Basic Writing II (COM) (Corequisite with ENGL 101 - Composition I (COM) [SGR #1, HSDC]) *	<18	0 - 2583	0 - 262
ENGL 033 - Basic Writing III (COM) *	<18	0 - 2583	0 - 262

*After consulting with an academic advisor, students may opt to take the co-requisite course (ENGL 032/ENGL 101) or the prerequisite course (ENGL 033). SDSU advises students with ACCUPLACER scores below the cutoff for placement into ENGL 101, to adhere to the placement policy of the South Dakota Board of Regents, which places students in Basic Writing III (ENGL 033). SDBOR AAC Guideline 2.3.7.B also states that students must successfully complete this course within the first 30 credit hours. However, if students have an English ACT score of 16 or 17 that was obtained in the last 5 years, or if they otherwise wish to be considered for the 032/101 co-requisite course, they should consult with their academic advisor. Approval is ultimately obtained from the School of English and Interdisciplinary Studies director or designee.

For students with valid ACT or Smarter Balanced Assessment scores, the English or English Language Arts (ELA) scores are used to determine placement into the initial English course. Valid ACT or Smarter Balanced scores are scores that were earned by the student within five (5) years of the date of initial enrollment within the Regental system. If a student has multiple ACT scores, the highest ACT English subscore is used for placement purposes. Students who do not have valid ACT or Smarter Balanced scores must sit for the ACCUPLACER Writing placement exam. Students without valid ACT or Smarter Balanced scores, and who are unable to take the ACCUPLACER exam may qualify using the Alternate English Placement Procedures outlined in these guidelines.

In rare circumstances when a first-time student does not have valid ACT or Smarter Balanced scores, and ACCUPLACER testing is not an option for a student, universities may use the student's letter grade(s) in his or her most recent high school academic year's English courses. Using this method, placement into ENGL 101 requires a letter grade of B or better in each English course. Students with a letter grade of C in any English course, or students without a recent English course letter grade, may be placed into English courses by taking a proctored essay-writing assignment administered by the student's university of enrollment. This assignment is assessed by the university's English program department chair or department chair designee. Assessment is holistic, with students completing sufficient assignments placed in ENGL 101 and students completing insufficient assignments placed in ENGL 033 or ENGL 032 (which must be taken with the

101 co-requisite). Students with a letter grade of D or F in any English course are placed into ENGL 033 or ENGL 032 (which must be taken with the 101 co-requisite).

Following course registration, but before start of the applicable term, new exam scores may become available. In such situations, placement is reassessed; changes to course registrations may be either merited or required. Students taking the Accuplacer exam outside of the regental system will be allowed to transfer their placement test scores and these scores will be used in the Board of Regent Placement policy. 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.

The regental system conscientiously adheres to relevant legislation (South Dakota Human Relations Act of 1972, Rehabilitation Act of 1973, and Americans with Disabilities Act); in that spirit, South Dakota State University offers reasonable accommodation for students who submit such requests in advance of scheduled test sessions.

Placement into Initial Math Courses

(SDBOR Academic Affairs Guidelines 2.2.1.1.A)

The South Dakota Board of Regents has developed a standardized process for initial placement of students in math courses. Consistently employed across the regental system, this policy is aligned with proven measures of math readiness. Students are placed in accordance with acknowledged skills and abilities. Such placement positions students for collegiate success in mathematics and assures a fitting level of academic challenge for those who demonstrate higher levels of skill in mathematics.

All students at the undergraduate level (whether seeking a degree or not) wishing to take a math course are initially placed as established by approved guidelines.

Current HS GPA (no more than 5 years old) is the preferred, single measure of academic preparation used for initial placement. Additional placement measures include the math index which combines current HS GPA with ACT Math sub score (or SAT equivalent), Smarter Balanced Scores, or ALEKS. Students without a current High School GPA will take the ACCUPLACER examination to establish initial placement.

Course	High School GPA	Math Index (MI) MI=250 x HS GPA + 17x MATH ACT*	Smarter Balanced Score	Accuplacer Score (Only if no valid HS GPA)	CHALLENGE INDEX CI = 290 x HS GPA + AAF** + 20	ALEKS PPL
MATH 101 - Intermediate Algebra (COM) or MATH 103 - Mathematical Reasoning (COM) [SGR #5, HSDC] / MATH 093 - Algebra for Mathematical Reasoning (COM) MATH 114 - College Algebra (COM) [SGR #5, HSDC] / MATH 094 - College Algebra Laboratory (COM)	Basic placement - anyone can take these courses. There is no placement or prerequisite requirement for these courses.					
MATH 103 - Mathematical Reasoning (COM) [SGR #5, HSDC] / MATH 114 - College Algebra (COM) [SGR #5, HSDC]	2.34≤ HSGPA <3.03	MI 950 or higher	2543 - 2627	QAS 224 - 254	CI 950 or higher	32
MATH 115 - Precalculus (COM) [SGR #5, HSDC] or MATH 120 - Trigonometry (COM) [SGR #5, HSDC] or MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] / MATH 121L - Survey of Calculus Lab	HSGPA is 3.55 or higher	MI 1300 or higher	NA	AAF 250 - 300 or Accuplacer SDCalculus 1-15	CI 1300 or higher	61

Course	High School GPA	Math Index (MI) MI=250 x HS GPA + 17x MATH ACT*	Smarter Balanced Score	Accuplacer Score (Only if no valid HS GPA)	CHALLENGE INDEX CI = 290 x HS GPA + AAF** + 20	ALEKS PPL
[HSDC] or STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC]						
MATH 123 - Calculus I (COM) [SGR #5, HSDC] with MATH 123L - Calculus I Lab (COM) [HSDC]	HSGPA is 3.55 or higher AND Accuplacer SDCalculus 16 or higher	MI 1300 or higher AND Accuplacer SDCalculus 16 or higher	NA	AAF 250+ AND SDCalculus 16 or higher	CI 1300 or higher AND Accuplacer SDCalculus 16 or higher	76
MATH 123 - Calculus I (COM) [SGR #5, HSDC] or MATH 123 - Calculus I (COM) [SGR #5, HSDC] with MATH 123L - Calculus I Lab (COM) [HSDC] (Honors)	HSGPA is 3.55 or higher AND Accuplacer SDCalculus 19 or higher	MI 1300 or higher AND Accuplacer SDCalculus 19 or higher	NA	AAF 250+ AND Accuplacer SDCalculus 19 or higher	CI 1300 or higher AND Accuplacer SDCalculus 19 or higher	89

*SAT is converted to equivalent ACT for MI calculation.

**Accuplacer domains: QAS: Quantitative Reasoning, Algebra and Statistics; AAF: Advanced Algebra and Functions

Students desiring to challenge their initial placement should meet with their advisor to determine whether it is possible to change their placement using the ACCUPLACER exam.

Students who, prior to enrollment at South Dakota State University, have completed math courses which are equivalent to courses which satisfy SGR #5 and/or prerequisites for future courses are exempt from placement requirements.

Students taking the Accuplacer exam outside of the regental system will be allowed to transfer their placement test scores and these scores will be used in the Board of Regent Placement policy. 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.

The regental system conscientiously adheres to relevant legislation (South Dakota Human Relations Act of 1972, Rehabilitation Act of 1973, and Americans with Disabilities Act); in that spirit, South Dakota State University offers reasonable accommodation for students who submit such requests in advance of scheduled test sessions.

Completion of Pre-General Education Courses in English and Mathematics

(SDBOR Academic Affairs Guideline 2.3.7.B)

Pre-general education courses include remedial mathematics and English courses. Students who are placed into remedial courses should successfully complete the remedial course(s) prior to enrolling in initial General Education courses in English composition and mathematics. Pre-general education courses include ENGL 032, ENGL 033, MATH 093, MATH 094, and MATH 101.

Students placed in pre-general education courses should be enrolled in and successfully complete the courses within the first 30 credit hours attempted.

Credit Hours and Grades

- Credit hours for the pre-general education courses are included in the total number of credit hours attempted to establish full time status.
- Credit hours for ENGL 032, ENGL 033, MATH 093 and MATH 094 do not count towards total number of credit hours required to graduate.
- The grades assigned for courses numbered less than 100 will be RI, RS, and RU.

Reading Placement

(SDSU Policy 2:28)

Policy

- Placement in READ 145 - Reading Strategies (COM) helps ensure that students have the necessary reading skills to be successful in college-level courses. This college reading course provides students with multiple strategies to promote comprehension skills, develop vocabulary and enhance metacognition to become strategic readers.

- All entering students seeking an associate or baccalaureate degree must either provide valid ACT/SAT/Smarter Balanced scores (i.e., within the last five (5) years) or take the reading ACCUPLACER examination.
- Students who score 17 or less on the ACT in reading are required to successfully complete the READ 145 Reading Strategies course with a grade of D or higher within their first 30 credit hours.
- Transfer students with fewer than 30 credits completed and without valid ACT/SAT/ Smarter Balanced scores are required to complete the reading ACCUPLACER examination.
- Transfer students with 30 or more completed and accepted credits and a cumulative GPA of 3.0 or above at the time of transfer are exempt from completing the reading course, regardless of ACT/SAT scores.
- Students who are placed in READ 145 may challenge their placement by taking the reading ACCUPLACER examination. Students are allowed two (2) attempts, and if the student's score is 261 or greater, the student will not be required to complete READ 145.
- 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. Students with an SAT Evidence-Based Reading and Writing score of 490 or higher will not be required to complete READ 145.
- Students with a valid 11th Grade Smarter Balanced English Language Arts/Literacy score that meets or exceeds the SDBOR threshold for English placement are exempt from taking READ 145. 11th Grade Smarter Balanced scores may only be used if on the high school transcript.
- The requirement to complete READ 145 will be waived if a student has successfully completed a comparable three (3)-credit college reading course with a grade of least D or satisfactory.
- 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.

Procedures

- Students participating in New Student Orientation (NSO) will be notified of their placement status at such time. All other students will receive notification from their academic adviser about their reading placement status.
- To challenge their reading placement, students contact the SDSU Testing Center to pay the challenge fee and complete the ACCUPLACER Reading Test. The score is then entered into the student information system.
- 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 Testing Center will issue the student a voucher that can be used to test at a certified ACCUPLACER testing site with a SDBOR ACCUPLACER branching test package. 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.
- Entering students who meet any exemption identified above must complete the Reading Placement Exemption Form and submit it to the SDSU Testing Center.

Students Called to Active Military Service

(SDBOR Policy 2.1.3, 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 Conduct Code

(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:

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

SDSU's main objective is to help students meet their academic goals through a positive and rigorous academic experience. In addition to the above-referenced policies, SDSU maintains a webpage outlining the various processes for students with concerns and complaints, whether academic or non-academic.

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 email 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 email 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 email privileges as well as referral to appropriate external authorities.

Student Recording of Classroom Lectures, Distribution of Course Materials, and 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 and Field Trips

Student Organization Travel and 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 Disability Services Assistant Director and Accommodations Specialist work with students with documented disabilities as defined by the Americans with Disabilities Amendment Act to ensure access to the university's programs, services, and activities. For information, please email the Office of Disability Services or call 605-688-4504.

The University ADA Coordinator, or successor, serves as the principal planning and compliance coordinator for university programs, policies, and procedures to facilitate university compliance under the ADA, Section 504 of the Rehabilitation Act, applicable state law and SDBOR and university policies for persons with disabilities.

The ADA Coordinator is designated as the SDSU 'Responsible Employee' to coordinate institutional compliance and is dedicated to ensuring that SDSU provides an accessible and welcoming environment.

Study Abroad and 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.



General Education Requirements

The general education curriculum is central to South Dakota State University's mission of helping students develop key competencies and ways of thinking necessary for advanced study and engaged citizenship. These courses promote scientific inquiry, quantitative reasoning, communication, and an understanding of historical, psychological, social, and political structures. They also foster an appreciation for the contributions of cultures to our shared humanity. South Dakota State University and its faculty are committed to helping students acquire the knowledge and analytical skills needed to contribute meaningfully in the workplace and 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 2.3.7 and SDBOR Academic Affairs Guidelines 2.3.7.A, 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 2025.

System General Education Requirements Course/Credit Distribution

(SDBOR Policy 2.3.7, SDBOR Academic Affairs Guidelines 2.3.7.A)

The general education component of all associate and baccalaureate 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.

Associate of Arts Degree and Associate of Science Degree Course/Credit Distribution

The System General Education Requirements for students pursuing an Associate of Arts or Associate of Science degree shall include 24 credit hours.

	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.

Baccalaureate Degree Course/Credit Distribution

System General Education Requirements for students pursuing a baccalaureate degree shall include 30 credit hours.

	SDBOR Requirement: 18 Credits	SDSU Requirement: 12 Credits
SGR Goal #1	3 Credits	3 Credits
SGR Goal #2	3 Credits	

SDBOR Requirement: 18 Credits SDSU Requirement: 12 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 Goals and Approved Courses

(SDBOR Academic Affairs Guidelines 2.3.7.A)

These requirements are common across the entire South Dakota Regental System. There are six (6) System General Education Goals for which general education has been designed for meeting student outcomes. The System General Education Committee and Academic Affairs Council will review all general education requests in reference to these goals. The finite list of courses approved to meet each of the established system goals will be maintained in the SDBOR Academic Affairs Guidelines 2.3.7.A.

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:

- Write using standard American English, including correct punctuation, grammar, and sentence structure,
- Write logically,
- Write persuasively, with a variety of rhetorical strategies (e.g., expository, argumentative, descriptive), and
- 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 Degree	6 Credit Hours
Baccalaureate Degree	6 Credit Hours

Notes

Student enrollment in the initial English course is determined by the Academic Affairs Guidelines 7.6.B English Placement Guidelines.

Courses

- ENGL 101 - Composition I (COM) [SGR #1, HSDC] Credits: 3
- ENGL 201 - Composition II (COM) [SGR #1, HSDC] Credits: 3
- ENGL 277 - Technical Writing in Engineering [SGR #1, HSDC] Credits: 3

- ENGL 283 - Introduction to Creative Writing (COM) [SGR #1, HSDC] Credits: 3
- ENGL 284 - Introduction to Criticism (COM) [SGR #1, HSDC] 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:

- Demonstrate the ability to speak thoughtfully, clearly, and effectively in a variety of contexts.
- 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 - Foundations of Communication (COM) [SGR #2, HSDC] Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2, HSDC] Credits: 3
- CMST 222 - Argumentation and Debate (COM) [SGR #2, HSDC] Credits: 3

SGR Goal #3

Social Sciences

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

Student Learning Outcomes

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

- Identify and explain basic concepts, terminology, theories, and systems of inquiry of the selected social science disciplines.
- Apply selected social science concepts and theories to contemporary or historical issues from different behavioral, cultural, institutional, temporal, or spatial contexts.
- Analyze the extent and impact of variation 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.
- Courses must be from different disciplines (different prefixes/subjects).
- One course must be completed to fulfill the civics requirement. Courses that satisfy this requirement are marked with [CIV].

Courses

- AFES 203 - Global Food Systems [SGR #3, HSDC] Credits: 3
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- ANTH 210 - Cultural Anthropology (COM) [SGR #3, HSDC] Credits: 3
- CIV 100 - American Civics (COM) [SGR #3, HSDC] [CIV] Credits: 3
- CJUS 201 - Introduction to Criminal Justice (COM) [SGR #3, HSDC] Credits: 3
- CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] Credits: 3

- ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3
- GEOG 101 - Introduction to Geography (COM) [SGR #3, HSDC] Credits: 3
- GEOG 111 - Sustainable Society (COM) [SGR #3, HSDC] Credits: 3
- GEOG 200 - Introduction to Human Geography (COM) [SGR #3, HSDC] Credits: 3
- GEOG 210 - World Regional Geography (COM) [SGR #3, HSDC] Credits: 3
- GEOG 212 - Geography of North America (COM) [SGR #3, HSDC] Credits: 3
- GEOG 219 - Geography of South Dakota [SGR #3, HSDC] Credits: 3
- GLST 201 - Introduction to Global Studies [SGR #3, HSDC] Credits: 3
- HDFS 141 - Individual and the Family [SGR #3, HSDC] Credits: 3
- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- HIST 151 - United States History I (COM) [SGR #3, HSDC] [CIV] Credits: 3
- HIST 152 - United States History II (COM) [SGR #3, HSDC] [CIV] Credits: 3
- INFO 102 - Data Ethics (COM) [SGR #3, HSDC] Credits: 3
- PHIL 102 - Data Ethics (COM) [SGR #3, HSDC] Credits: 3
- POLS 100 - American Government (COM) [SGR #3, HSDC] [CIV] Credits: 3
- POLS 102 - American Political Issues (COM) [SGR #3, HSDC] Credits: 3
- POLS 141 - Governments of the World (COM) [SGR #3, HSDC] Credits: 3
- POLS 165 - Political Ideologies (COM) [SGR #3, HSDC] Credits: 3
- POLS 210 - State and Local Government (COM) [SGR #3, HSDC] [CIV] Credits: 3
- POLS 253 - Current World Issues [SGR #3, HSDC] Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3
- SOC 150 - Social Problems (COM) [SGR #3, HSDC] Credits: 3
- SOC 240 - The Sociology of Rural America (COM) [SGR #3, HSDC] Credits: 3
- SOC 250 - Courtship and Marriage (COM) [SGR #3, HSDC] Credits: 3
- WMST 247 - Introduction to Women, Gender, and Sexuality Studies (COM) [SGR #3, HSDC] Credits: 3

Courses that Fulfill the Civics Requirement

- CIV 100 - American Civics (COM) [SGR #3, HSDC] [CIV] Credits: 3
- HIST 151 - United States History I (COM) [SGR #3, HSDC] [CIV] Credits: 3
- HIST 152 - United States History II (COM) [SGR #3, HSDC] [CIV] Credits: 3
- POLS 100 - American Government (COM) [SGR #3, HSDC] [CIV] Credits: 3
- POLS 210 - State and Local Government (COM) [SGR #3, HSDC] [CIV] Credits: 3

SGR Goal #4

Arts and Humanities

Students will understand the variability 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:

- Demonstrate knowledge of the variability of values, beliefs, practices or ideas embodied in the human experience, and
- 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:

- Demonstrate ability to express creative, aesthetic, formal or stylistic elements of the disciplines.
- Demonstrate foundational competency in reading, writing, and speaking a non-English language.
- 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.
- Courses must be from different disciplines (different prefixes/subject codes) except for foreign language. Foreign languages may have two sections of the same prefix/subject. Students must complete a course from another subject if they are using one from ART, ARTH, or DSGN.

Courses

- AIS 101 - Introductory Lakota I (COM) [SGR #4, HSDC] Credits: 4
- AIS 102 - Introductory Lakota II (COM) [SGR #4, HSDC] Credits: 4
- AIS 201 - Intermediate Lakota I (COM) [SGR #4, HSDC] Credits: 3
- AIS 202 - Intermediate Lakota II (COM) [SGR #4, HSDC] 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, HSDC] Credits: 3
- ART 111 - Drawing I (COM) [SGR #4, HSDC] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4, HSDC] Credits: 3
- ART 121 - Design I 2D (COM) [SGR #4, HSDC] Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4, HSDC] Credits: 3
- ARTH 100 - Art Appreciation (COM) [SGR #4, HSDC] Credits: 3
- ARTH 211 - History of World Art I (COM) [SGR #4, HSDC] Credits: 3
- ARTH 212 - History of World Art II (COM) [SGR #4, HSDC] 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, HSDC] Credits: 3
- ENGL 210 - Introduction to Literature (COM) [SGR #4, HSDC] Credits: 3
- ENGL 221 - British Literature to 1800 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 222 - British Literature Since 1800 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 240 - Juvenile Literature [SGR #4, HSDC] Credits: 3
- ENGL 241 - American Literature to 1865 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 242 - American Literature Since 1865 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 248 - Women in Literature (COM) [SGR #4, HSDC] Credits: 3
- ENGL 249 - Literature of Diverse Cultures [SGR #4, HSDC] Credits: 3
- ENGL 268 - Literature (COM) [SGR #4, HSDC] Credits: 3
- FREN 101 - Introductory French I (COM) [SGR #4, HSDC] Credits: 4
- FREN 102 - Introductory French II (COM) [SGR #4, HSDC] Credits: 4
- FREN 201 - Intermediate French I (COM) [SGR #4, HSDC] Credits: 3
- FREN 202 - Intermediate French II (COM) [SGR #4, HSDC] Credits: 3
- GER 101 - Introductory German I (COM) [SGR #4, HSDC] Credits: 4
- GER 102 - Introductory German II (COM) [SGR #4, HSDC] Credits: 4
- GER 201 - Intermediate German I (COM) [SGR #4, HSDC] Credits: 3
- GER 202 - Intermediate German II (COM) [SGR #4, HSDC] Credits: 3
- HIST 111 - World Civilizations I (COM) [SGR #4, HSDC] Credits: 3
- HIST 112 - World Civilizations II (COM) [SGR #4, HSDC] Credits: 3
- HIST 121 - Western Civilization I (COM) [SGR #4, HSDC] Credits: 3
- HIST 122 - Western Civilization II (COM) [SGR #4, HSDC] Credits: 3
- LAKL 101 - Introductory Lakota I (COM) [SGR #4, HSDC] Credits: 4
- LAKL 102 - Introductory Lakota II (COM) [SGR #4, HSDC] Credits: 4
- LAKL 201 - Intermediate Lakota I (COM) [SGR #4, HSDC] Credits: 3
- LAKL 202 - Intermediate Lakota II (COM) [SGR #4, HSDC] Credits: 3
- LATI 101 - Elementary Latin (COM) [SGR #4] Credits: 4
- LATI 102 - Advanced Elementary Latin (COM) [SGR #4] Credits: 4
- MCOM 151 - Introduction to Mass Communication (COM) [SGR #4, HSDC] Credits: 3
- MCOM 160 - Introduction to Film [SGR #4, HSDC] 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, HSDC] Credits: 3
- MUS 130 - Music Literature and History I [SGR #4, HSDC] Credits: 2
- MUS 131 - Music Literature and History II [SGR #4, HSDC] Credits: 3
- MUS 201 - History of Country Music [SGR #4, HSDC] Credits: 3
- MUS 203 - Blues, Jazz, and Rock [SGR #4, HSDC] Credits: 3
- PHIL 100 - Introduction to Philosophy (COM) [SGR #4, HSDC] Credits: 3
- PHIL 200 - Introduction to Logic (COM) [SGR #4, HSDC] Credits: 3
- PHIL 215 - Introduction to Social-Political Philosophy (COM) [SGR #4, HSDC] Credits: 3
- PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] Credits: 3
- REL 213 - Introduction to Religion [SGR #4, HSDC] Credits: 3
- REL 224 - Old Testament [SGR #4, HSDC] Credits: 3
- REL 225 - New Testament (COM) [SGR #4, HSDC] Credits: 3
- REL 238 - Native American Religions [SGR #4, HSDC] Credits: 3
- REL 250 - World Religions (COM) [SGR #4, HSDC] 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, HSDC] Credits: 4
- SPAN 102 - Introductory Spanish II (COM) [SGR #4, HSDC] Credits: 4
- SPAN 201 - Intermediate Spanish I (COM) [SGR #4, HSDC] Credits: 3
- SPAN 202 - Intermediate Spanish II (COM) [SGR #4, HSDC] Credits: 3
- THEA 100 - Introduction to Theatre (COM) [SGR #4, HSDC] Credits: 3
- THEA 131 - Introduction to Acting (COM) [SGR #4, HSDC] Credits: 3
- WMST 248 - Women in Literature (COM) [SGR #4, HSDC] 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:

- Use mathematical symbols and mathematical structure to model and solve real world problems.
- 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 math course is determined by the Academic Affairs Guidelines 7.6.A Mathematics Placement Guidelines.

Courses

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

- Explain the nature of science including how scientific explanation are formulated, tested, and modified or validated.
- Distinguish between scientific and non-scientific evidence and explanations, and use scientific evidence to construct arguments related to contemporary issues.
- Apply basic observational, quantitative, or technological methods to gather and analyze data and generate evidence-based conclusions in a laboratory setting.
- 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 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2
- BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 103 - Biology Survey II (COM) [SGR #6, HSDC] Credits: 2
- BIOL 103L - Biology Survey II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 235 - Introduction to Biotechnology (COM) [SGR #6, HSDC] Credits: 2
- BIOL 235L - Introduction to Biotechnology Lab (COM) [SGR #6, HSDC] Credits: 1
- BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits: 2
- BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3
- CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4
- CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3
- GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1
- GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3
- GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3
- PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3

- PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 185 - Solar System Astronomy (COM) [SGR #6, HSDC] Credits: 2
- PHYS 185L - Solar System Astronomy Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 187 - Stars, Galaxies, and Cosmology (COM) [SGR #6, HSDC] Credits: 2
- PHYS 187L - Stars, Galaxies, and Cosmology Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 209 - Fundamentals of Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 209L - Fundamentals of Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 211 - University Physics I (COM) [SGR #6, HSDC] Credits: 4
- PHYS 211L - University Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 213 - University Physics II (COM) [SGR #6, HSDC] Credits: 4
- PHYS 213L - University Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- PS 243 - Principles of Geology [SGR #6, HSDC] Credits: 3
- RANG 205 - Introduction to Range Management [SGR #6, HSDC] Credits: 2
- RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1

Policies Applicable to System General Education Requirements

(SDBOR Policy 2.2.2.1, SDBOR Policy 2.3.7, SDBOR Academic Affairs Guidelines 2.3.7.B, SDBOR Academic Affairs Guidelines 2.3.7.A)

The System General Education Requirements outlined in SDBOR Policy 2.3.7 will be effective for students entering in Fall 2025.

Course Restrictions

(SDBOR Academic Affairs Guidelines 2.3.7.B)

- Only 100/200 level courses will be included on the approved course list outlined in SDBOR Academic Affairs Guidelines 2.3.7.A.
- For transfer equivalency purposes, exceptions based on student background may be made utilizing the established university academic appeal process.
- Honors courses equivalent to identified System general education courses may be approved but must meet the System requirements and align with the established learning outcomes.
- Performance courses shall not be used to meet SGR Goal #4

General Education Transfer

South Dakota Regental System Transfer of Credit and Common Course Transfer

(SDBOR Policy 2.2.2.2)

- Students who complete the System General Education Requirements (SDBOR Policy 2.3.7) at any Regental institution will have fulfilled the System General Education Requirements for their degree program. The completion of the requirements will internally transfer with the courses, credit hours and grades assigned regardless of the course distributions or approved course lists.
- Students who complete system common courses will internally transfer with the courses, credit hours and grades assigned regardless of the Regental institution.
- A student who has not completed all System 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.
- All prerequisites for associate and baccalaureate programs must be completed as determined by the student's degree plan.

External (Non-Regental System) Accredited University/College Transfer of Credit

(SDBOR Policy 2.2.2.3)

Independent General Education and Common Course Transfer

- All individual general education courses will have a course evaluation.
- Approved equivalent courses and grades are recorded on the transcript; once the course is recorded, the equivalency will not change.

Block General Education Transfer

- A student who has completed general education requirements that are consistent with the six (6) goals and credit hour requirements outlined in SDBOR Policy 2.3.7 will enter the Regental system having fulfilled the General Education program requirements.
- A student who has completed a bachelor's degree at an accredited institution will have successfully completed the General Education Requirements.
- Degree and graduation requirements to meet one of the System General Education Requirements (SGRs) may stipulate that students' complete credits/courses toward the degree program. Any such requirement will be outlined in the program articulation agreement.
- Approved transfer courses, number and name as well as grades are recorded on the transcript. Credit will be identified in the student information system that general education has been satisfied and transcribed.

External (Non-Regental System) Non-Accredited University/College and International Transfer of Credit

(SDBOR Policy 2.2.2.4)

Independent General Education Transfer

- University discretion is permitted in acceptance of general education courses.
- Courses considered for transfer are subject to all SDBOR policies and any conditions for validation that may be prescribed by the receiving institution.
- All individual general education courses requests for transfer will have a course evaluation. Approved equivalent courses and grades are recorded on the transcript; once the course is recorded, the equivalency will not change.

Placement into Initial English Courses

(SDBOR Academic Affairs Guidelines 2.2.1.1.B)

The South Dakota Board of Regents has developed a standardized process for initial placement of students in English composition courses. Students are placed in accordance with acknowledged skills and abilities. Such placement promises a match between student preparation/dispositions and course rigor; it positions students for collegiate success in English, which retains vital importance.

All incoming, degree seeking students at the undergraduate level are initially placed in English courses as established by approved guidelines. Transfer students who have fulfilled general education requirements in English are exempt. For non-degree seeking students, placement is relevant only if students pursue registration in English course work. In such cases, placement procedures do apply.

Initial placement is determined by the English Placement Matrix in SDBOR Academic Affairs Guidelines 2.2.1.1.B - Appendix A. Students are placed into either ENGL 101, ENGL 032 (which is taken concurrently with ENGL 101), or ENGL 033.

Course	ACT English Subscores	Smarter Balanced ELA Score	Accuplacer Next Generation Writing Score
ENGL 101 - Composition I (COM) [SGR #1, HSDC]	18 - 36	2583 or higher	263 or higher
ENGL 032 - Basic Writing II (COM) (Co-requisite with ENGL 101 - Composition I (COM) [SGR #1, HSDC])*	<18	0 - 2583	0 - 262
ENGL 033 - Basic Writing III (COM)*	<18	0 - 2583	0 - 262

*After consulting with an academic advisor, students may opt to take the co-requisite course (ENGL 032/ENGL 101) or the prerequisite course (ENGL 033). SDSU advises students with ACCUPLACER scores below the cutoff for placement into ENGL 101, to adhere to the placement policy of the South Dakota Board of Regents, which places students in Basic Writing III (ENGL 033). SDBOR AAC Guideline 2.3.7.B also states that students must successfully complete this course within the first 30 credit hours. However, if students have an English ACT score of 16 or 17 that was obtained in the last 5 years, or if they otherwise wish to be considered for the 032/101 co-requisite course, they should consult with their academic advisor. Approval is ultimately obtained from the School of English and Interdisciplinary Studies director or designee.

For students with valid ACT or Smarter Balanced Assessment scores, the English or English Language Arts (ELA) scores are used to determine placement into the initial English course. Valid ACT or Smarter Balanced scores are scores that were earned by the student within five (5) years of the date of initial enrollment within the Regental system. If a student has multiple ACT scores, the highest ACT English subscore is used for placement purposes. Students who do not have valid ACT or Smarter Balanced scores must sit for the ACCUPLACER Writing placement exam. Students without valid ACT or Smarter Balanced scores, and who are unable to take the ACCUPLACER exam may qualify using the Alternate English Placement Procedures outlined in these guidelines.

In rare circumstances when a first-time student does not have valid ACT or Smarter Balanced scores, and ACCUPLACER testing is not an option for a student, universities may use the student's letter grade(s) in his or her most recent high school academic year's English courses. Using this method, placement into ENGL 101 requires a letter grade of B or better in each English course. Students with a letter grade of C in any English course, or students without a recent English course letter grade, may be placed into English courses by taking a proctored essay-writing assignment administered by the student's university of enrollment. This assignment is assessed by the university's English program department chair or department chair designee. Assessment is holistic, with students completing sufficient assignments placed in ENGL 101 and students completing insufficient assignments placed in ENGL 033 or ENGL 032 (which must be taken with the 101 co-requisite). Students with a letter grade of D or F in any English course are placed into ENGL 033 or ENGL 032 (which must be taken with the 101 co-requisite).

Following course registration, but before start of the applicable term, new exam scores may become available. In such situations, placement is reassessed; changes to course registrations may be either merited or required. Students taking the Accuplacer exam outside of the regental system will be allowed to transfer their placement test scores and these scores will be used in the Board of Regent Placement policy. 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.

The regental system conscientiously adheres to relevant legislation (South Dakota Human Relations Act of 1972, Rehabilitation Act of 1973, and Americans with Disabilities Act); in that spirit, South Dakota State University offers reasonable accommodation for students who submit such requests in advance of scheduled test sessions.

Placement into Initial Math Courses

(SDBOR Academic Affairs Guidelines 2.2.1.1.A)

The South Dakota Board of Regents has developed a standardized process for initial placement of students in math courses. Consistently employed across the regental system, this policy is aligned with proven measures of math readiness. Students are placed in accordance with acknowledged skills and abilities. Such placement positions students for collegiate success in mathematics and assures a fitting level of academic challenge for those who demonstrate higher levels of skill in mathematics.

All students at the undergraduate level (whether seeking a degree or not) wishing to take a math course are initially placed as established by approved guidelines.

Current HS GPA (no more than 5 years old) is the preferred, single measure of academic preparation used for initial placement. Additional placement measures include the math index which combines current HS GPA with ACT Math sub score (or SAT equivalent), Smarter Balanced Scores, or ALEKS. Students without a current High School GPA will take the ACCUPLACER examination to establish initial placement.

Course	High School GPA	Math Index (MI) MI=250 x HS GPA + 17x MATH ACT*	Smarter Balanced Score	Accuplacer Score (Only if no valid HS GPA)	CHALLENGE INDEX CI = 290 x HS GPA + AAF** + 20	ALEKS PPL
MATH 101 - Intermediate Algebra (COM) or MATH 103 - Mathematical Reasoning (COM) [SGR #5, HSDC] / MATH 093 - Algebra for Mathematical Reasoning (COM)	Basic placement - anyone can take these courses. There is no placement or prerequisite requirement for these courses.					

Course	High School GPA	Math Index (MI) MI=250 x HS GPA + 17x MATH ACT*	Smarter Balanced Score	Accuplacer Score (Only if no valid HS GPA)	CHALLENGE INDEX CI = 290 x HS GPA + AAF** + 20	ALEKS PPL
MATH 114 - College Algebra (COM) [SGR #5, HSDC] / MATH 094 - College Algebra Laboratory (COM)	2.34≤ HSGPA <3.03	MI 950 or higher	2543 - 2627	QAS 224 - 254	CI 950 or higher	32
MATH 103 - Mathematical Reasoning (COM) [SGR #5, HSDC] or MATH 114 - College Algebra (COM) [SGR #5, HSDC]	3.03≤ HSGPA <3.55	MI 1150 or higher	2628 or higher	QAS 255 - 300 or AAF 200 - 249	CI 1150 or higher	46
MATH 115 - Precalculus (COM) [SGR #5, HSDC] or MATH 120 - Trigonometry (COM) [SGR #5, HSDC] or MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] / MATH 121L - Survey of Calculus Lab [HSDC] or STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC]	HSGPA is 3.55 or higher	MI 1300 or higher	NA	AAF 250 - 300 or Accuplacer SDCalculus 1-15	CI 1300 or higher	61
MATH 123 - Calculus I (COM) [SGR #5, HSDC] with MATH 123L - Calculus I Lab (COM) [HSDC]	HSGPA is 3.55 or higher AND Accuplacer SDCalculus 16 or higher	MI 1300 or higher AND Accuplacer SDCalculus 16 or higher	NA	AAF 250+ AND SDCalculus 16 or higher	CI 1300 or higher AND Accuplacer SDCalculus 16 or higher	76
MATH 123 - Calculus I (COM) [SGR #5, HSDC] or MATH 123 - Calculus I (COM) [SGR #5, HSDC] with MATH 123L - Calculus I Lab (COM) [HSDC] (Honors)	HSGPA is 3.55 or higher AND Accuplacer SDCalculus 19 or higher	MI 1300 or higher AND Accuplacer SDCalculus 19 or higher	NA	AAF 250+ AND Accuplacer SDCalculus 19 or higher	CI 1300 or higher AND Accuplacer SDCalculus 19 or higher	89

*SAT is converted to equivalent ACT for MI calculation.

**Accuplacer domains: QAS: Quantitative Reasoning, Algebra and Statistics; AAF: Advanced Algebra and Functions

Students desiring to challenge their initial placement should meet with their advisor to determine whether it is possible to change their placement using the ACCUPLACER exam.

Students who, prior to enrollment at South Dakota State University, have completed math courses which are equivalent to courses which satisfy SGR #5 and/or prerequisites for future courses are exempt from placement requirements.

Students taking the Accuplacer exam outside of the regental system will be allowed to transfer their placement test scores and these scores will be used in the Board of Regent Placement policy. 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.

The regental system conscientiously adheres to relevant legislation (South Dakota Human Relations Act of 1972, Rehabilitation Act of 1973, and Americans with Disabilities Act); in that spirit, South Dakota State University offers reasonable accommodation for students who submit such requests in advance of scheduled test sessions.

Completion of Pre-General Education Courses in English and Mathematics

(SDBOR Academic Affairs Guideline 2.3.7.B)

Pre-general education courses include remedial mathematics and English courses. Students who are placed into remedial courses must successfully complete the

remedial course(s) prior to enrolling in initial General Education courses in English composition and mathematics. Pre-general education courses include ENGL 032, ENGL 033, MATH 093, MATH 094, and MATH 101.

Students placed in pre-general education courses should be enrolled in and successfully complete the courses within the first 30 credit hours attempted.

Credit Hours and Grades

- Credit hours for the pre-general education courses are included in the total number of credit hours attempted to establish full time status.
- Credit hours for ENGL 032, ENGL 033, MATH 093, and MATH 094 do not count towards total number of credit hours required to graduate.
- The grades assigned for courses numbered less than 100 will be RI, RS, and RU.

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

General Degree Requirements

(SDBOR Policy 2.6.1, SDBOR Policy 2.8.1)

- Completion of at least 120 semester credit hours for the baccalaureate degree and 60 semester credit hours for the associate degree. Remedial course credits are not counted as meeting degree requirements.
- 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.
- Completion of university general education requirements.
- Undergraduate degree granting institutional credit requirements:
 - An institutional credit is a course offered by SDSU at any of its approved sites using any approved method of delivery.
 - The minimum number of total credits that must be earned from the degree-granting institution shall be:
 - Baccalaureate: 25% of the total required credits
 - Associate: 25% of the total required credits
 - Certificate: 50% of the total required credits
 - Those certificates that are system certificates shall be exempt from this credit hour requirement. In addition, when the requirements set by a specialized accrediting agency exceed the requirements set forth in this policy, those of the specialized accrediting agency take precedence.
 - The number of last credits earned preceding completion of the degree that must be earned from the degree-granting institution shall be:
 - Baccalaureate: 15 of the last 30 credit hours
 - Associate: 8 of the last 15 credit hours
 - The institution chief academic officer may make exceptions to this requirement in those cases where there are unique factors, such as participation in an approved study abroad program or in other similar authorized experiences.
 - The minimum number of credits specified in the major or minor requirements that must be completed from the degree-granting institution shall be fifty (50) percent. However, this requirement may be waived for students enrolled in common courses offered by one of the other Regental universities. In addition, the institution chief academic officer may make exceptions to this requirement for individuals based on the student's prior learning experiences, or internal Regental system transfer courses that have been approved and equated to the degree granting institution. At no time can the exceptions exceed ten (10) percent of the requirements.
 - Credits earned by examination are not counted as resident credit unless an exception has been made because of special program features.
 - A bachelor's degree seeking student must have twenty (20) upper division level credits, fourteen (14) of which need to be at SDSU.
- Completion of all college and major field requirements.
 - One Degree, Multiple Majors - While pursuing a specific degree program, a student may earn several majors or minors approved under that same degree program. Students pursuing more than one major must complete all requirements for the majors as set forth by the academic units involved. Students wishing to complete two undergraduate majors that are offered in separate colleges or schools, or in the same school or college, but within the same degree program structure, must complete all requirements for each related major. 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. Degree - 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. A minimum of thirty (30) credits of the second degree must not be applicable to the first degree, meaning students will complete a minimum of 150 credits depending on the two degrees chosen. Courses may meet the requirements of both degrees provided the overall university requirements are met and the system requirements are met. 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. Completion of a second degree will not be allowed when both majors may be awarded under the same degree. Two degrees and two diplomas are issued. Example: B.A. Degree - Major: Spanish; B.S. Degree - Major: Human Biology.
 - 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 transcribed 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/host Regental institution will only be recorded on the transcript in conjunction with a degree and major at the student's home institution.
 - 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.

Awarding of Academic Degrees

(SDBOR Policy 2.6.2)

The Board approves the awarding of academic degrees after receiving the university president's recommendation on behalf of the university. In recommending that the Board approve the award of a degree to an individual, the President certifies that the student has satisfied, or is expected to satisfy, the

applicable degree requirements in Board Policy or in curricular requests approved by the Board.

- Board approval is contingent upon the student's completion of all of the degree requirements. A degree may be awarded only after the student has completed the degree requirements.
- Approval of institutional recommendations by the Board shall not be to waive any degree requirement for an individual student.
- Recommendations for awarding degrees shall be submitted to the Board through its Executive Director and Chief Executive Officer and shall appear on the agenda of a regularly scheduled Board meeting.
 - Universities are authorized to hold commencement exercises prior to Board approval of institutional recommendations.
 - The recommendations shall be submitted in a uniform format determined by the Board.
 - Recommendations shall be submitted to the Board through its Executive Director and Chief Executive Officer according to the following schedule:
 - Recommendations for May commencement exercises or graduation shall be provided to the Board at its regularly scheduled May meeting.
 - Recommendations for August commencement exercises or graduation shall be provided to the Board at its regularly scheduled August meeting.
 - Recommendations for December commencement exercises or graduation shall be provided to the Board at its regularly scheduled December meeting.

Graduation Dates

(SDBOR Policy 2.6.2)

- The official date of graduation for the term is the last date of the term. For the Fall and Spring terms, this date is the last date of final examinations. For the Summer term, it is the last date of the full summer term. This date of graduation will be recorded both on the academic transcript and on the diploma.
- Commencement ceremonies may be held prior to the official graduation date or after the official graduation date.
- A student's official date of graduation shall be the official date of graduation for the term in which the student successfully completes all requirements.
- The final graduation verification date for each term will be two days prior to the Clearinghouse certification date.
 - The institution's Vice President for Academic Affairs may make an exception to the final graduation verification date for student teachers who complete their student teaching experience on a date after the verification deadline.
 - The Medical School is exempted from the final graduation verification date.
 - Other than the exceptions noted above for student teachers and the Medical School, a student's date of graduation will not be backdated. If the student does not meet graduation requirements prior to the verification deadline, the student must apply for graduation in a future term.

Catalog of Graduation for Undergraduate Students

(SDBOR Policy 2.6.2)

- The catalog of graduation begins with the summer term and ends with the subsequent spring term.
- 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.
- In order to receive a degree, a student must meet the program requirements listed in his/her catalog of graduation.
- 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.
- 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.

- 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.
- Students who are not currently enrolled and who petition to graduate based on coursework previously completed at a Regental university are assigned the catalog in effect during the term they wish to graduate.

Graduation Policies and Procedures

- **Graduation Application - Date Due.**
Check the university calendar or the fall, spring, and summer semester calendar for dates.
- **Incomplete grades in courses required for graduation.**
Graduating Seniors and Graduate Students
 - Any graduating senior or graduating graduate student
 - 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
 - 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.
- **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.
- **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 three (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 2.8.1)

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 2.3.7.)

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 2.3.7.)

Minimum Graduation Standards

(SDBOR Policy 2.8.1)

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

College of Agriculture, Food and Environmental Sciences

Joseph Cassady, South Dakota Corn Utilization Council Endowed Dean
College of Agriculture, Food and Environmental Sciences
Berg Agricultural Hall 159, Box 2207
605-688-4148

James Connors, Associate Dean and Director of Academic Programs
Mary Christensen, Assistant Dean for Academic Programs
Rosie Nold, Assistant Dean and Director of the Institute of Global Agricultural Leadership
College of Agriculture, Food and Environmental Sciences
Berg Agricultural Hall 162, 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 and Schools

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

Accreditations/Reviews

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

Student Support and 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 broad range of 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 and 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.)

Certificates

- Gateway to Agriculture Certificate
- Global Agricultural Leadership Certificate

Department of Agricultural and Biosystems Engineering

Programs

Majors

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

Minors

- Precision Agriculture Minor

Department of Agronomy, Horticulture and 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
- Bison Studies Minor
- Equine Studies Minor
- Meat Science Minor
- Ranch Management Minor

Certificates

- Bison Studies Certificate
- Livestock and Animal Products Evaluation Certificate
- Swine Science Certificate

Department of Dairy and 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.)
- 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
- Ranch Management Minor
- Rangeland Ecology and Management Minor

Department of Veterinary and Biomedical Sciences

Programs

Minors

- Animal Health Minor

Pre-Professional Interest Areas

- Pre-Veterinary Medicine

Ness School of Management and 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
- Ranch Management Minor

Certificates

- Agricultural and Environmental Law Certificate

College of Arts, Humanities and Social Sciences

David Earnest, Dean

Jason Zimmerman, Associate Dean

College of Arts, Humanities and Social Sciences

Lincoln Hall 129, Box 2212

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, schools, and programs in the College of Arts, Humanities and Social Sciences offer major and/or minor programs leading to certificates and associate, bachelor, and master's degrees.

Departments and Schools

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

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

Students seeking B.A., B.G.S., 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+
- One declared minor outside of the major discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. The minor must be declared no later than the student's third semester of enrollment. Minor may be from any regental institution.

*The Accounting (B.A./B.S.) and Music (B.A.) - Music Entrepreneurship Specialization are excluded from the requirement of one declared minor outside of the major discipline OR a second major OR a teaching specialization. Please refer to the major and specialization for specific program requirements.

Bachelor of Fine Arts

- ART/DSGN 121 - Design I 2D (COM) [SGR #4, HSDC] 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

- ART/DSGN 121 - Design I 2D (COM) [SGR #4, HSDC] 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 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.
- One declared minor outside of the major discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. The minor must be declared no later than the student's third semester of enrollment. Minor may be from any regental institution.

*The Accounting (B.A./B.S.) is excluded from the requirement of one declared minor outside of the major discipline OR a second major OR a teaching specialization. Please refer to the major for specific program requirements.

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

- BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2
- BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 103 - Biology Survey II (COM) [SGR #6, HSDC] Credits: 2
- BIOL 103L - Biology Survey II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 105 - Human Biology (COM) Credits: 4
- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3

- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits: 2
- BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3
- CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4
- CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- EES 275 - Introduction to Environmental Science Credits: 3
- GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3
- GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1
- GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3
- GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1
- INFO 101 - Introduction to Informatics [HSDC] Credits: 3
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
- NRM 110 - People and the Environment [HSDC] Credits: 3
- NRM 200 - Animal Diversity Credits: 2
- NRM 200L - Animal Diversity Lab Credits: 1
- NUTR 221 - Survey of Nutrition Credits: 3
- PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3
- PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 185 - Solar System Astronomy (COM) [SGR #6, HSDC] Credits: 2
- PHYS 185L - Solar System Astronomy Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 187 - Stars, Galaxies, and Cosmology (COM) [SGR #6, HSDC] Credits: 2
- PHYS 187L - Stars, Galaxies, and Cosmology Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 209 - Fundamentals of Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 209L - Fundamentals of Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 211 - University Physics I (COM) [SGR #6, HSDC] Credits: 4
- PHYS 211L - University Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 213 - University Physics II (COM) [SGR #6, HSDC] Credits: 4
- PHYS 213L - University Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- PS 103 - Crop Production Credits: 2
- PS 103L - Crop Production Lab Credits: 1
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- PS 243 - Principles of Geology [SGR #6, HSDC] Credits: 3
- RANG 205 - Introduction to Range Management [SGR #6, HSDC] Credits: 2

- RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3

Accreditations and 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 Advertising, Journalism, and Public Relations programs are 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 the Council for the Accreditation of Educator Preparation.
- The Theatre program is accredited by the National Association of Schools of Theatre.
- The Ness School of Management and Economics is accredited by the Association to Advance Collegiate Schools of Business International (AACSB).

Student Support and 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 Performing 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.

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 Performing 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, Bass Choir, Treble 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 and Social Sciences

Programs

Majors

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

Department of Aerospace Studies

Programs

Minors

- Aerospace Studies Minor

Department of Military Science

Programs

Minors

- Military Science Minor

Ness School of Management and Economics

Programs

Majors

- Accounting (B.A./B.S.)
- Business Economics (B.A./B.S.)

- Consumer Behavior (B.S.)
- Economics (B.A./B.S.)
- Entrepreneurial Studies (B.A./B.S.)

Minors

- Accounting Minor
- Economics Minor
- Entrepreneurial Studies Minor
- Financial Counseling and Planning Minor
- Human Resources Minor
- Management Minor
- Marketing Minor

Certificates

- Gateway to Business Certificate
- New Product and Venture Development Certificate

School of American and Global Studies

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
- Oceti Sakowin Language Minor
- Philosophy Minor
- Political Science Minor
- Religion Minor
- Spanish Minor

Certificates

- American Civic Traditions Certificate
- Basic French Language Proficiency Certificate
- Basic German Language Proficiency Certificate
- Basic Oceti Sakowin Language Certificate
- Basic Spanish Language Proficiency Certificate
- Lobbying and Government Advocacy Certificate
- Public Service Certificate
- Wiziapan Leadership and Sustainability Certificate
- Workplace Intercultural Competence Certificate

Pre-Professional Interest Areas

- Pre-Law
- Pre-Ministerial

School of Communication and Journalism

Programs

Majors

- Advertising (B.A./B.S.)
- Communication Studies (B.A./B.S.)
- Communication Studies (B.A./B.S.) - Communication 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
- Museum Studies Minor
- Studio Arts Minor

Certificates

- Animation Certificate
- Art History Certificate
- Ceramics Certificate
- Gateway to Architecture and Construction Certificate
- Graphic Design Minor
- Painting Certificate
- Printmaking Certificate
- Sculpture Certificate

School of English and Interdisciplinary Studies

Programs

Majors

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

Minors

- English Minor
- Film Studies Minor
- Professional Communication Minor
- Women, Gender, and Sexuality Studies Minor

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 and Rural Studies

Programs

Majors

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

Minors

- Criminal Justice Minor
- Mental Health Services Minor
- Psychology Minor
- Sociology Minor

College of Education and Human Sciences

Evan Ortlieb, Dean

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 a variety of 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 work 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 and Human Development
- School of Health and Human 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 and 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/>.

Academic Subjects for Teacher Education

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 degree requirements in an academic major before or while meeting the requirements for South Dakota teacher certification.

Agricultural Education

Laura Hasselquist
605-688-4545

Chemistry

Matt Miller
605-688-5151

Family and Consumer Sciences Education

Nicole Graves
605-688-6484

Mathematics

Sharon Vestal
605-688-2225

Music Education (K-12)

David Reynolds
605-688-5187

Physics

Robert McTaggart
605-688-5428

Sociology

Katie Derrick
605-688-6296

Studio Art - Art Education

Diana Behl
605-688-4103

Teaching Methods Courses

Studio Art (B.F.A.) - Art Education Specialization, Agricultural Education, Communication and Leadership (B.S.) - Agricultural Education Specialization, Family and Consumer Sciences Education (B.S.), Music Education (B.M.E.), and Physical Education Teacher Education (B.S.) curriculum include method(s) courses within their own specific course sequences. Refer to the major program of study for more details.

Approved Teaching Methods Courses

- ARTE 414 - K-12 Art Methods (COM) Credits: 3
- CMST 476 - 7-12 Speech Methods (COM) Credits: 3
- ELED 310 - K-8 Methods of Music, Art and Drama (COM) Credits: 2
- ELED 320 - K-8 Science Methods (COM) Credits: 3
- ELED 330 - K-8 Math Methods (COM) Credits: 3
- ELED 360 - K-8 Social Science Methods (COM) Credits: 3
- ELED 440 - K-8 Language Arts Methods (COM) Credits: 3
- ELED 450 - K-8 Reading Methods (COM) Credits: 3
- ENGL 424 - 7-12 Language Arts Methods Credits: 3
- HLTH 420 - K-12 Methods of Health Instruction (COM) Credits: 2
- MATH 355 - Methods of Teaching Mathematics Credits: 4
- MFL 420 - K-12 Foreign Language Methods (COM) Credits: 3
- MUS 270 - Pedagogy I Credits: 1-2
- MUS 271 - Pedagogy II Credits: 1-2
- MUS 351 - Elementary School Music Methods (COM) Credits: 2-3
- MUS 361 - Music Education II: Conducting Credits: 2
- MUS 362 - Music Education III: Methods and Materials Credits: 2
- MUS 365 - Music Education IV: Supervision and Administration of School Music Credits: 2
- MUS 370 - Pedagogy III Credits: 1-2
- MUS 371 - Pedagogy IV Credits: 1-2
- PE 360 - K-8 Physical Education Methods (COM) Credits: 2

Biology

Omar Rodriguez
605-688-4119

English

Jason McEntee
605-688-5191

History

Dale Potts
605-688-6345

Modern Languages (K-12)

Christine Garst-Santos
605-688-5101

Physical Education (K-12)

Tracy Nelson
605-688-4034

Psychology

Katie Derrick
605-688-6296

Speech/Debate/Communication

Rebecca Kuehl
605-688-4171

- PE 360L - K-8 Physical Education Methods Lab Credits: 1
- SEED 413 - 7-12 Science Methods (COM) Credits: 3
- SEED 415 - 7-12 Social Science Methods (COM) Credits: 3
- SEED 424 - 7-12 Language Arts Methods (COM) Credits: 3

Accreditations

- Accreditation Commission for Programs in Hospitality Administration (ACPHA)
- Accreditation Council for Education of Nutrition and Dietetics (ACEND)
- Aviation Accreditation Board International (AABI)
- Commission on Accreditation of Athletic Training Education (CAATE)
- Commission on Accreditation for the Exercise Sciences (CoAES)
- Council for Accreditation of Counseling and Related Educational Programs (CACREP)
- Council for the Accreditation of Educator Preparation (CAEP)
- National Association for Education of Young Children (NAEYC)
- Society of Health and Physical Educators (SHAPE America)
- South Dakota Department of Education (DOE)

Student Support and 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 and 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 - Birth to Grade 3 (B.S.)
- Elementary Education (B.S.)
- Family and Consumer Sciences Education (B.S.)
- Human Development and Family Services (A.S.)
- Human Development and Family Science (B.S.)
- Special Education (B.S.)

Minors

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

Certificates

- Gateway to Teacher Education Certificate

Certification Preparation

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

School of Health and Human Sciences

Programs

Majors

- Aviation (B.S.) - Aviation Education Specialization
- Exercise Science (B.S.)
- Fashion Studies and Retail Merchandising (B.S.)
- Health Studies (B.S.)
- Health Studies (B.S.) - Health Promotion Specialization
- 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 Management (B.S.)

Minors

- Apparel and Fashion Studies Minor
- Aviation Minor
- Events and Facilities Administration Minor
- Health Education Minor
- Leadership and Management of Nonprofit Organizations Minor
- Leadership Minor
- Nutrition Minor
- Production and Service of Wine, Beer and Spirits Minor
- Sport Management Minor
- Retail Merchandising Minor

Certificates

- Production and Service of Wine, Beer and Spirits Certificate

Certification Preparation

- Athletic Coaching Certification

Pre-Professional Interest Areas

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

College of Natural Sciences

Senthil Subramanian, Dean
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 and Microbiology
- Department of Chemistry, Biochemistry and Physics
- Department of Geography and Geospatial Sciences

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.

Accreditations and Certification

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

Programs

Department of Biology and 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
- Bioprocessing Sciences Minor
- Microbiology Minor

Certificates

- Bioprocessing Sciences Certificate

Pre-Professional Interest Areas

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

Department of Chemistry, Biochemistry and Physics

Programs

Majors

- Biochemistry (B.S.)
- Chemistry - ACS Certified (B.S.)
- Chemistry Education (B.S.)
- Physics (B.S.)
- Physics (B.S.) - Science Teaching Specialization

Minors

- Chemistry Minor
- Nuclear Engineering Minor
- Physics Minor

Certificates

- Gateway to STEM Certificate

Department of Geography and 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
- Geospatial Intelligence Minor
- Sustainability Minor
- Uncrewed Aircraft Systems Minor

Certificates

- Geographic Information Sciences Certificate
- Uncrewed Aircraft Systems Certificate

College of Nursing

Mary Anne Krogh, Roberta K. Olson Endowed Dean
Heidi Mennenga, Associate Dean for Academic Programs
College of Nursing
Wagner Hall 255, Box 2275
605-688-6924

Overview

The College of Nursing strives for excellence in undergraduate and graduate education, research, scholarship, and health services to 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)
- Society for Simulation in Healthcare (SSH)
- American Nurses Credentialing Center (ANCC)

Programs

Department of Graduate Nursing

Programs*

Master's Degrees

- Nursing (M.S.) - Nurse Administrator Specialization
- Nursing (M.S.) - Nurse Educator Specialization

Doctoral Degrees

- Nursing (Ph.D.)

Professional Doctoral Degrees

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

Certificates

- Post-Graduate Adult-Gerontology Acute Care Nurse Practitioner 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

- Health Studies (B.S.) - Innovative Healthcare Leadership Specialization
- Nursing (B.S.N.)
- Nursing (B.S.N.) - Accelerated Program
- Nursing (B.S.N.) - RN to B.S.N.

Minors

- Health Science Minor

Certificates

- Gateway to Health Sciences Certificate
- Rural Health Certificate

College of Pharmacy and Allied Health Professions

Dan Hansen, Laughrey Endowed Dean
Brad Laible, Associate Dean for Academic Programs
James Clem, Associate Dean of Student Services
Sanku Mallik, Associate Dean of Research
College of Pharmacy and Allied Health Professions
Avera Health and Science Center 133, Box 2202C
605-688-6197

Overview

The mission of the SDSU 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 healthcare setting and research laboratories as well as educational experiences with students from other healthcare 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, opioid addiction, perinatal health, pharmacogenomics, ophthalmic medicine, and new models of care.

Departments

- Department of Allied and 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

Pharmaceutical Sciences Program

During the first two years of the B.S. in Pharmaceutical Sciences degree, students primarily complete general education requirements and a strong science core. These students then take courses alongside students who have been admitted to the Doctor of Pharmacy (Pharm.D.) program during their third and fourth year in the plan of study. The Pharm.D. is a graduate program and does require students to go through a competitive admission process.

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). An accelerated option is available for students that complete 90 college credits or a B.S. and prerequisites for the MLS 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

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

Programs

College of Pharmacy and Allied Health Professions

Programs

Majors

- Pharmaceutical Sciences (B.S.) in preparation for the Doctor of Pharmacy (Pharm.D.)

Graduate Programs*

- Pharmacy (Pharm.D.)

Department of Allied and Population Health

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*

- Master of Public Health (M.P.H.)
- Public Health Certificate

Department of Pharmaceutical Sciences

Programs

Minors

- Pharmacology and Toxicology Minor

Certificates

- Pharmacology Certificate

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.

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

Sanjeev Kumar, Jerome J. Lohr Endowed Dean
Suzette Burckhard, Assistant Dean for Academic Programs
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 and Biosystems Engineering
- Department of Civil and Environmental Engineering
- Department of Construction and Concrete Industry Management
- Department of Mathematics and Statistics
- Department of Mechanical Engineering
- McComish Department of Electrical Engineering and Computer Science
- Ness School of Management and Economics

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.
- The Computer Science (B.S.) program is accredited by the Computing Accreditation Commission of ABET.
- The Construction Management (B.S.) and Operations Management (B.S.) programs are accredited by the Applied and Natural Sciences Accreditation Commission of ABET.
- The Electronics Engineering Technology (B.S.) program is accredited by the Engineering Technology Accreditation Commission of ABET.

Facilities and 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 and 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 and 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 and Biosystems Engineering

Programs

Majors

- Agricultural and Biosystems Engineering (B.S.)

Minors

- Engineering for Precision Agriculture Minor

Department of Civil and Environmental Engineering

Programs

Majors

- Civil Engineering (B.S.)

Department of Construction and Concrete Industry 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.)

Minors

- Concrete Materials Science Minor
- Construction Minor
- Engineering Management Minor
- Heavy-Highway Construction Minor
- Mechatronics Technology Minor
- Surface Mount Technology Minor

Certificates

- Engineering Graphics Certificate
- Gateway to Engineering Certificate
- Pre-Construction Planning Certificate

Department of Mathematics and 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

- Healthcare Systems Engineering (B.S.)
- Mechanical Engineering (B.S.)
- Mechanical Engineering (B.S.) - Aerospace Engineering Specialization

Minors

- Aerospace Engineering Minor
- Biomedical Engineering Minor
- Sustainable Energy Systems Minor

McComish Department of Electrical Engineering and Computer Science

Programs

Majors

- Computer Science (B.S.)
- Electrical Engineering (B.S.)

Minors

- Computer Engineering Minor
- Computer Science (B.S.)
- Informatics Minor
- Software Engineering Minor

Certificates

- Gateway to Digital Technology Certificate

Ness School of Management and Economics

Programs

Majors

- Operations Management (B.S.)

Van D. and Barbara B. Fishback Honors College

Greg Heiberger, Interim Dean
Van D. and Barbara B. Fishback Honors College
Honors Hall 119, Box 2705A
605-688-5268

Committee

Greg Heiberger, Interim Dean; Committee Members: Rosie Nold (College of Agriculture, Food and 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 and Human Sciences), Ross Abraham (Jerome J. Lohr College of Engineering), Robert Fournay (Jerome J. Lohr College of Engineering), Fathi Halaweish (College of Natural Sciences), Sarah Mollman (College of Nursing), James Clem (College of Pharmacy and Allied Health Professions), Joshua Reineke (College of Pharmacy and Allied Health Professions), and Matthew Badura (Wintrobe Student Success and Opportunity 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.

Facilities and Services

The Van D. and Barbara B. Fishback Honors College is headquartered in Honors

Hall, which also houses almost 200 Honors students. Facilities include the dean's office/administrative suite, faculty and staff offices, a basement community space, a small library, an outdoor courtyard, group study rooms, and lounges with kitchens and fireplaces on each wing of the hall. Honors Hall is the hub of academic and enrichment programming for the Honors College.

Student Support and 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, faith-based organizations, and other groups. 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 Honors Literary Circles, 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 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. 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.
- **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

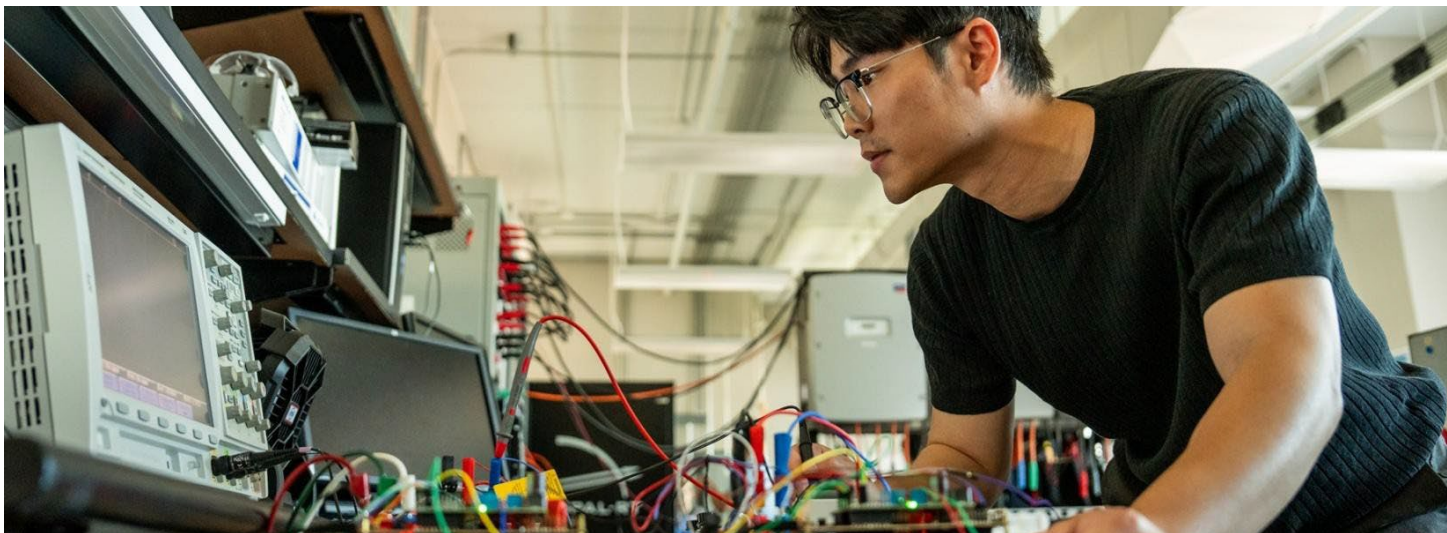
The Van D. and Barbara B. Fishback Honors College is a single administrative unit, which collaborates with other Deans, Department Heads, and Student Affairs offices across campus to serve its students and fulfill its mission. The Honors College is guided through the collaborative leadership of the Dean and shared governance structures including the Honors Faculty Committee, Dean's Student Advisory Council, and Dean's Development Advisory Council.

Distinction

- Honors College Distinction

Minors

- Applied Thinking and Innovation Minor



Departments and Schools

Department of Aerospace Studies

Lt Col Gary Priest, Department Head
 Department of Aerospace Studies / AFROTC
 DePuy Military Hall Room 100, Box 2236
 605-688-6106

Faculty

Professors

Gary Priest

Assistant Professors

Mark Donahue, Ken Olson

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 and 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 and 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 students in the Professional Officer Course who are on contract with Air Force ROTC qualify for a monthly stipend ranging from \$450 to \$500. Professional Officer Course cadets also receive the Brigadier General Charles McGee Leadership Award which covers tuition and fees up to \$18,000 per year, provided they have a passing fitness score and meet certain GPA requirements. Contracted non-scholarship students, in their last two years of AFROTC, who are South Dakota residents qualify for 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.

- Officer Development - Opportunities at various Air Force and Space Force bases and locations throughout the United States and abroad.
- Paid summer internships at locations such as Air Force Research Labs and Lawrence Livermore Labs.

- Project Go - Scholarships to study critical languages through on-line and in-residence programs both in the US and abroad.
- Bataan Memorial March – Cadets travel to the White Sands Missile Range in New Mexico to participate in a marathon-length ruck march to commemorate the 1942 Bataan Death March.
- Flying Irish ROTC Basketball Tournament - Cadets take an annual 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.

Department of Agricultural and Biosystems Engineering

Kasiviswanathan Muthukumarappan, Maynard A. Klingbeil Endowed Department Head
 Department of Agricultural and Biosystems Engineering
 Raven Precision Agriculture Center 136
 605-688-5666

Faculty

Distinguished Professors

Kasiviswanathan Muthukumarappan

Professors

Zhengrong Gu, Todd Trooien, Lin Wei

Professors of Practice

Ryan Lefers

Associate Professors

Xufei Yang

Assistant Professors

Young Chang, Sushant Mehan, Mazhar Sher, Pappu Yadav, Ren Yang

Lecturers

Douglas Prairie, Nicholas Uilk

Adjunct Professors

Lyle Mangen, John McMaine

Emeritus

Michael Adelaine, Gary Anderson, Shu-Tung Chu, Darrell DeBoer, William Gibbons, Mylo Hellickson, Daniel Humburg, Van Kelley, 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 and Biosystems Engineering 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 and Biosystems 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 and 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) and SD Mesonet are 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 and Engagement Opportunities

The department provides opportunities for student engagement and support through student clubs (such as Quarter Scale Tractor Team and ABE/AST/PRAG Club), the department ambassadors program, scholarships, design projects, and internship coordination.

Department of Agronomy, Horticulture and Plant Science

Karen Sanguinet, Klingbeil Endowed Department Head
Cheryl Reese, Undergraduate Teaching Coordinator
Keerthi Mandyam, 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, Bruce Bleakley, Arvid Boe, Rhoda Burrows, Karl Glover, Jose Gonzalez-Hernandez, Chris Graham, Xingyou Gu, Wanlong Li, Thandiwe Nleya, Karen Sanguinet, Sunish Sehgal

Associate Professors

Melanie Caffé, Jason Clark, Péter Kovács, Peter Sexton, Adam Varenhorst

Assistant Professors

Gazala Ameen, Eric Jones, Kristine Lang, Kristopher Osterloh, Madalyn Shires, Jagdeep Sidhu, Shyam Solanki, Sean Toporek, Teng Yang

Senior Lecturers

Jiyul Chang, Hani Ghosheh, Cheryl Reese

Lecturers

Shaina Westhoff

Emeritus

Shaukat Ali, Dwayne Beck, George Buchenau, C. Gregg Carlson, Sharon Clay, James Doolittle, C. Dean Dybing, Billy Fuller, James Gerwing, David F. Graper, Robert Hall, Paul J. Johnson, Marie Langham, Douglas Malo, Vance Owens, Ronald Peterson, Robert Pollmann, Dale Reeves, Diane Rickerl, Thomas Schumacher, Clair Stymiest, Fedora Sutton, Brent Turnipseed, Howard Woodard, Leon Wrage, David Wright

Overview

Our goal 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*

- Biological Sciences (Ph.D.) - Plant Molecular Biology Specialization
- Biological Sciences (Ph.D.) - Plant Science Specialization
- Plant Science (M.S.)
- Plant Science (Ph.D.)
- Precision Agriculture Certificate
- Professional Science (M.S.) - Precision Agriculture Emphasis

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

Facilities and 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 and 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 and Population Health

Dan Hansen, Laughrey Endowed Dean
Department of Allied and Population Health
Avera Health and Science Center 133, Box 2202C
605-688-6197

Faculty

Associate Professors

James Amell

Assistant Professors

Kassandra Erickson, Stephanie Hanson, Erin Miller, April Nelsen, Christopher Robbins

Lecturers

Stacie Lansink

Instructors

Tiffany Niemann, Ranae Phinney, Cassie Renli, Kayla Salonen, Marissa Trosen, Jessica Winterboer, Abby Wortman

Adjuncts

Travis Hansen, David Kovalski, Michael Strubel

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 and Services

The main department office is located in the Avera Health and Science Center, but the department also has office space at the Avera Metro Center in Sioux Falls, Sanford Medical Center, Avera McKennan Hospital, Monument Health, Brookings Regional Health System, Madison Regional Health System, and Huron Regional Medical Center. On-campus classes and labs for the Medical Laboratory Science are located in the Avera Health and Science Center. The respiratory care courses are offered at Avera McKennan and Sanford Hospitals in Sioux Falls, Monument Health in Rapid City, Brookings Regional Health System, Madison Regional Health System, and Huron Regional Medical Center. Courses in the pharmacy program are taught in Brookings and at Avera Metro Center in Sioux Falls. The Master of Public Health program is joint online program between South Dakota State University and the University of South Dakota. MPH faculty offices are in Brookings and at the Avera Metro Center in Sioux Falls.

Department of Animal Science

John Jaeger, Calvin and Mary Hayenga Endowed Department Head
Department of Animal Science
Animal Science Complex 103A
605-688-5165

Faculty

Distinguished Professors

Robert Thaler

Professors

Amanda Blair, Kristi Cammack, Joseph Cassady, Michael Gonda, John Jaeger, John Killefer, Crystal Levesque, Rosemarie Nold, Julie Walker, Cody Wright

Associate Professors

Judson Grubbs, Zachary Smith, Benoit St Pierre, Keith Underwood

Assistant Professors

Christina Bakker, Jameson Brennan, Erin DeHaan, Jessica Drum, Hector Menendez, Ana Baiao Menezes, Ira Parsons, Rafe Royall, Warren Rusche, Ryan Samuel, Rebecca Swanson, Philip Urso, Eric Weaver

Lecturers

Tommy Norman, Carmen Paulson

Emeritus

Jeffrey Clapper, Dan Gee, Jeffrey Held, James Johnson, George Libal, Douglas McFarland, Kenneth Olson

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 broad 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
- Bison Studies Minor
- Equine Studies Minor
- Meat Science Minor
- Ranch Management Minor (offered jointly with Department of Natural Resource Management and Ness School of Management and Economics)

Certificates

- Bison Studies Certificate
- 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.

Accreditation

The B.S. in Animal Science is accredited by the American Society of Animal Science.

Facilities and 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 and 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 Biology and Microbiology

Jeremy Chambers, Department Head
Yajun Wu, Assistant Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141

Faculty

Professors

Bruce Bleakley, Volker Brözel, Jeremy Chambers, Charles Fenster, Radhey Kaushik, Wanlong Li, Madhav Nepal, Sen Subramanian, Xiuqing Wang, Yajun Wu, Ruanbao Zhou

Associate Professors

Nicholas Butzin, Greg Heiberger, Ananda Nanjundaswamy, Mark Messerli, Ethan Snow, Natalie Thix

Assistant Professors

Ryan Hanson, Gergely Imre, Bishnu Karki

Senior Lecturers

Mandy Orth

Lecturers

Karly Ackermann, Andrew Ellis, Kristin Lenertz, Jessica Mediger

Instructors

Ashley McConnell, Maggie Minett, Brietta Nelson, Teresa Pederson, Omar Rodriguez

Emeritus

Donald Evenson, Nels Granholm, Michael Hildreth, Scott Pedersen, Gary Peterson, Neil Reese, Yang Yen

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
- Bioprocessing Sciences Minor
- Microbiology Minor

Certificates

- Bioprocessing Sciences Certificate

Pre-Professional Interest Areas

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

Graduate Programs*

- Biological Sciences (M.S.)
- Biological Sciences (M.S.) - Biology Specialization
- Biological Sciences (M.S.) - Microbiology Specialization
- Biological Sciences (Ph.D.)
- Biological Sciences (Ph.D.) - Biology Specialization
- Biological Sciences (Ph.D.) - Microbiology Specialization
- Biological Sciences (Ph.D.) - Molecular Biology Specialization
- Biotechnology Certificate
- Human Biology (M.S.)
- Professional Science (M.S.) - Biotechnology Emphasis

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

Facilities and Services

The Department of Biology and Microbiology and its faculty members are located in five buildings, Edgar S. McFadden Biostress Laboratory (SNP), Alfred Dairy Science Hall - main office (SDS), Berg Agricultural Hall (SAG), Avera Health and Science Center (SAV), 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, molecular and cell biology, and bioproducts.

Student Support and 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 and Physics

Brian Logue, Department Head
Melody Jewell, Coordinator of Chemistry and Biochemistry Undergraduate Programs
Department of Chemistry, Biochemistry and Physics
Avera Health and Science Center 247
605-688-5151 (Chemistry and Biochemistry)

Robert McTaggart, Assistant Department Head
Daktronics Engineering Hall 255
605-688-5428 (Physics)

Faculty

Distinguished Professors

Jihong Cole-Dai

Professors

Suvobrata Chakravarty, Fathi Halaweish, Adam Hoppe, Yung Huh, Brian Logue, Parashu Kharel, Robert McTaggart, Matthew Miller

Associate Professors

Darci Fink, Jay Shore, Rachel Willand-Charnley, Cheng Zhang

Assistant Professors

Derek Brandis, Nurul Islam

Senior Lecturers

Geoff Bonvallet, Melody Jewell, Julie Leibold, Sara Madsen, Judy Vondruska

Emeritus

Larry Browning, Henry Gehrke, John Grove, Harry Hecht, William Jensen, Ivan Palmer, Oren Quist, Joel Rauber, Douglas Raynie, James Rice, William Wadsworth

Overview

The mission of the Department of Chemistry, Biochemistry and Physics 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, nuclear engineering, physics, and related scientific areas, the department provides degree programs at the baccalaureate, masters, and doctoral levels. 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. 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, Biochemistry and Physics 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.

Department Requirements

All general university requirements must be met to qualify for the bachelor's degrees in the Department of Chemistry, Biochemistry and Physics. In addition, the following special requirements and rules have been established for all graduates of the department:

- Bachelor's degrees must include 33 semester credits from upper division courses (300 and above).
- Capstone course in the major discipline.

Programs

Majors

- Biochemistry (B.S.)
- Chemistry - ACS Certified (B.S.)
- Chemistry Education (B.S.)
- Physics (B.S.)
- Physics (B.S.) - Science Teaching Specialization

Minors

- Chemistry Minor
- Nuclear Engineering Minor
- Physics Minor

Certificates

- Gateway to STEM Certificate

Graduate Programs*

- Applied Physics Certificate
- Biochemistry (Ph.D.)
- Chemistry (M.S.)
- Chemistry (M.S.) - Chemistry Education Specialization
- Chemistry (Ph.D.)
- Professional Science (M.S.) - Applied Physics Emphasis

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

Student Support and 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 and Environmental Engineering

Guanghai Hua, Department Head
Department of Civil and Environmental Engineering
Crothers Engineering Hall 310
605-688-5427

Faculty

Professors

Suzette Burckhard, Guanghai Hua, Sanjeev Kumar, Christopher Schmit, Francis Ting

Associate Professors

Rouzbeh Ghabchi

Assistant Professors

Aritra Banerjee, Akram Jawdhari, Michael Pawlovich

Senior Lecturers

Kyungnan Min

Lecturers

Zachary Gutzmer

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 and 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 and 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, and internship employment experiences in civil engineering.

Department of Construction and Concrete Industry Management

Julian Kang, Department Head
Department of Construction and Concrete Industry Management
Solberg Hall 116
605-688-6417

Faculty

Associate Professors

Byron Garry, Julian Kang

Associate Professors of Practice

Tim Hostettler

Assistant Professors

Phuong Nguyen, Mohammad Teymouri

Senior Lecturers

Carrie Steinlicht, Alben Yordanova

Lecturers

Janet Merriman, Robert Miller

Instructors

Jason Prout

Emeritus

Teresa Keys Hall

Overview

The Department of Construction and Concrete Industry 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.)

Minors

- Concrete Materials Science Minor
- Construction Minor
- Engineering Management Minor
- Heavy-Highway Construction Minor
- Mechatronics Technology Minor
- Surface Mount Technology Minor

Certificates

- Engineering Graphics Certificate
- Gateway to Engineering Certificate
- Pre-Construction Planning Certificate

Graduate Programs*

- Engineering (M.Eng.)
- Surface Mount Technology Certificate

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

Facilities and 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. 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 and Engagement Opportunities

The department supports a professional honor society chapter to provide recognition for outstanding student leaders. Undergraduate and graduate students in the department are 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 and Food Science

Londa Nwadike, David A. Thompson Endowed Department Head
Department of Dairy and Food Science
Alfred Dairy Science Hall 136
605-688-4116

Faculty

Professors

Sanjeev Anand, Clifford Hall, Londa Nwadike

Associate Professors

Srinivas Janaswamy, Maneesha Mohan, Maristela Rovai

Assistant Professors

Tony Bruinjé, Gengjun Chen, Prafulla Salunke, Turner Swartz

Lecturers

Howard Bonnemenn

Emeritus

Robert Baer, David R. Henning, Padmanaban Krishnan, Vikram Mistry, 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 facilities offer both undergraduate students as well as graduate students opportunities for training on state-of-the art technologies.

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

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
- Food Technology Certificate
- Professional Science (M.S.) - Food Technology Emphasis

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

Facilities and Services

The department is headquartered in Alfred Dairy Science Hall. The Davis Dairy Plant, located adjacent to Alfred Dairy Science Hall, processes ice cream, butter, cheese, and other dairy products. These products are sold through the Dairy Sales Bar and used in campus dining facilities. The Institute of Dairy Ingredient Processing is available for internal and external research and development projects. Food Science labs are located in Young Brothers Seed Technology Laboratory, Sociology/Psychology Building, and Raven Precision Agriculture Center.

Student Support and Engagement Opportunities

Students are encouraged to supplement their class instruction with summer internships, employment at the Davis Dairy Plant, and extracurricular activities. Leadership opportunities are available through participation in the Dairy Club, Dairy Shrine, 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 Geography and Geospatial Sciences

Bob Watrel, Department Head
Department of Geography and Geospatial Sciences
109 Wecota Hall
605-688-4511

Faculty

Distinguished Professors

Xiaoyang Zhang

Professors

Bob Watrel, George White

Associate Professors

Bruce Millett, Hankui Zhang

Assistant Professors

Saraswati Bhusal, Thomas Craig, Kimberly Johnson Maier, Maitiniyazi Maimaitijiang

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.

Department Requirements

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

- Bachelor's degrees must include 30 semester credits from upper division courses (300 and above).
- 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.
- Capstone course in the major discipline.

- Natural Sciences Credits: 10
 - Any two lab sciences
 - Coursework must include two prefixes.
 - MATH and STAT courses do not count towards the science requirement.

*The Community and Regional Planning (B.S.) is excluded from the department's requirement of one declared minor outside of the major discipline OR a second major OR a teaching specialization, capstone requirement, and natural sciences requirement. Please refer to the major for specific program requirements.

Approved Natural Sciences Courses

- BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2
- BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 103 - Biology Survey II (COM) [SGR #6, HSDC] Credits: 2
- BIOL 103L - Biology Survey II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 105 - Human Biology (COM) Credits: 4
- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits: 2
- BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3
- CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4
- CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- EES 275 - Introduction to Environmental Science Credits: 3
- GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3
- GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1
- GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3
- GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1
- INFO 101 - Introduction to Informatics [HSDC] Credits: 3
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
- NRM 110 - People and the Environment [HSDC] Credits: 3
- NRM 200 - Animal Diversity Credits: 2
- NRM 200L - Animal Diversity Lab Credits: 1
- NUTR 221 - Survey of Nutrition Credits: 3
- PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3
- PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 185 - Solar System Astronomy (COM) [SGR #6, HSDC] Credits: 2
- PHYS 185L - Solar System Astronomy Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 187 - Stars, Galaxies, and Cosmology (COM) [SGR #6, HSDC] Credits: 2
- PHYS 187L - Stars, Galaxies, and Cosmology Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 211 - University Physics I (COM) [SGR #6, HSDC] Credits: 4

- PHYS 211L - University Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 213 - University Physics II (COM) [SGR #6, HSDC] Credits: 4
- PHYS 213L - University Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- PS 103 - Crop Production Credits: 2
- PS 103L - Crop Production Lab Credits: 1
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- PS 243 - Principles of Geology [SGR #6, HSDC] Credits: 3
- PS 244 - Geological Resources of South Dakota Lab Credits: 1
- RANG 205 - Introduction to Range Management [SGR #6, HSDC] Credits: 2
- RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3

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
- Geospatial Intelligence Minor
- Sustainability Minor
- Uncrewed Aircraft Systems Minor

Certificates

- Geographic Information Sciences Certificate
- Uncrewed Aircraft Systems Certificate

Graduate Programs*

- Geographic Information Sciences Certificate
- Geography (M.S.)
- Geography (M.S.) - Geographic Information Sciences Specialization
- Geospatial Intelligence Certificate
- Geospatial Science and Engineering (Ph.D.) - Geography Specialization
- Geospatial Science and Engineering (Ph.D.) - Remote Sensing Specialization
- Professional Science (M.S.) - Geographic Information Sciences Emphasis

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

Facilities and 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 and 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, Associate Dean for Academic Programs
Department of Graduate Nursing
Wagner Hall 255, Box 2275
605-688-6924

Faculty

Professors

Mary Anne Krogh, Heidi Mennenga, Uzma Zaidi

Associate Professors

Robin Brown, Karin Emery, Sarah Mollman

Assistant Professors

Brittany Brennan, Nicole Carlson, Samantha Fischbach, Michelle Lichtenberg, Danielle Schievelbein, Abby Seydel, Alyssa Zweifel

Clinical Associate Professors

Robin Arends

Clinical Assistant Professors

Dannica Callies, Theresa Garren-Grubbs, Lea Niederbaumer, Adam Norenberg, Christina Plemmons, Nicole Selle, Amy VahnDijk

Emeritus

Paula Carson, Gloria Craig, Cynthia Elverson, Kay Foland, Margaret Hegge, Barbara Hobbs, Sharon Hofland, Martha Iken, Coral Joffer, MaryLou Mylant, Roberta Olson, Tom Stenvig, Lois Tschetter, Jo Voss

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 of Science (M.S.) degree in two specializations: Nurse Educator and Nurse Administrator.

For students with a previous master's degree, two post-graduate certificate options are available: Psychiatric Mental Health Nurse Practitioner and Adult-Gerontology Acute Care 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 Clinical Nurse Leader, 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.) - Nurse Administrator Specialization
- Nursing (M.S.) - Nurse Educator Specialization

Doctoral Degrees*

- Nursing (Ph.D.)

Professional Doctoral Degrees*

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

Certificates*

- Post-Graduate Adult-Gerontology Acute Care Nurse Practitioner 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 and 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 telehealth.

Department of Mathematics and Statistics

Eun Heui Kim, Department Head
Donna Flint, Assistant Department Head
Department of Mathematics and Statistics
Chicoine Architecture, Mathematics and Engineering Hall 209
605-688-6196

Faculty

Professors

Ross Abraham, Gemechis Djira, Donna Flint, Xijin Ge, Eun Heui Kim, Jung-Han Kimn, Christine Larson, Christopher Saunders, Daniel Schaal, Sharon Vestal

Associate Professors

Matthew Biesecker, Thomas Brandenburger, Semhar Michael, Hossein Moradi Rekabdarkolae, Donald Vestal

Assistant Professors

Frederick Boehm, Michael Puthawala

Senior Lecturers

Nathan McClanahan

Lecturers

William Alsaker, Duff Baker-Jarvis, Rebecca Diischer, Carrie Easley, Young-Hee Ji, Erin Ulvestad

Instructors

Wendy Ahrendsen, Alvin Bahr, Kelly Huls, Deborah Leiferman

Emeritus

Clara Ayers, Charles Clever, Kurt Cogswell, Daniel Kemp, Maurice Monahan, Howard Nielsen, Kenneth Yocom

Overview

The department's mission is to provide a rich 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*

- Advanced Graduate Mathematics Certificate
- 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
- Data Science (M.S.)
- Data Science Certificate
- Graduate Mathematics Certificate
- Institutional Research and Assessment in Higher Education Certificate
- Mathematics (M.S.)
- Mathematics (M.S.) - Statistics Specialization
- Statistics (M.S.)

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

Facilities and 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, MATH 123, MATH 125, and STAT 281.

Student Support and 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

Saikat Basu, Jeffrey Doom, Todd Letcher, Gregory Michna

Assistant Professors

Shabbir Ahmed, Solaiman Tarafder

Senior Lecturers

Michael Twedt

Lecturers

Abdul Al Shehabi, Sarah Michna, John Versteeg

Instructors

Joscelyne Larson, 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 Sciences (B.S.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.) degrees in Mechanical Engineering, as well as minors in Aerospace Engineering, Biomedical Engineering, and Sustainable Energy Systems. Additionally, the B.S. degree in Healthcare Systems Engineering is also offered through the department. 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.

Programs

Majors

- Healthcare Systems Engineering (B.S.)
- 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 and Services

In addition to the instructional laboratories, the department houses the following research laboratories:

- Additive Manufacturing Lab
- Aerospace Robotics Testbed Laboratory
- AME Production Labs
- Bio-Materials Laboratory
- Dynamics and Controls Laboratory
- Energy Analysis Laboratory/SD Wind Application Center
- Heat Transfer Laboratory
- Materials Evaluation and Testing Laboratory
- Simulation-Based Engineering and Analysis Laboratory
- Thermal-Fluids Lab
- Lab for Engineering of Additive Designs; Education and Research

Student Support and 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
- American Institute of Aeronautics and Astronautics
- 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 Heath Abraham, Interim Department Head
Department of Military Science
DePuy Military Hall 200, Box 2236
605-688-6151

Faculty

Professors

Heath Abraham

Assistant Professors

Andrew Simer

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 its inception in 1884.

Program

Minors

- Military Science Minor

Training Programs

The Department has three on-campus training programs:

1. the four-year program consisting of the basic course for freshmen and sophomores, followed by the advanced course for juniors and seniors.
2. a three-year program where the basic course is compressed into the sophomore year followed by the advanced course.
3. 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 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 South Dakota residents. 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, or \$6,000 per semester for room and board. A book stipend of \$600 a semester plus a monthly subsistence allowance of \$420 a month are provided each semester for contracted cadets in Army ROTC. A 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 or online at www.armyrotc.com. Contact the SDSU Army ROTC for more information.

Student Support and Engagement Opportunities

The Department of Military Science provides students the opportunity to explore a wide variety of training options. The department offers participation in Color Guard as well as a Ranger Challenge Team. Training for qualified individuals includes Airborne, Air Assault, Northern Warfare Training, Cadet Troop Leader Training, Nurses Summer Training, Project Go (Cultural Understanding and Language Proficiency), and professional Internships for specific majors. 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 sharpen 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
605-688-6174

Faculty

Professors

Steve Chipps, Michele Dudash, Lora Perkins, Alexander (Sandy) Smart, Lan Xu

Associate Professors

Krista Ehler, A. Joshua Leffler, Josh Stafford

Assistant Professors

Christopher Cheek, Amanda Cheeseman, Alison Coulter, Sean Di Stéfano, Jeff Martin, William Severud, Rachel Short, Christy Wails, Katie Wenzell, Jennifer Zavaleta Cheek

Instructors

Kirsten Engeseth, Riley Mounsdon

Emeritus

Charles Berry, Jr., Michael Brown, Charles Dieter, Lester D. Flake, Kenneth Higgins, Jonathan Jenks, Carter Johnson, Patricia S. Johnson, Carol Johnston, 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 people is intimately tied to the use and conservation of natural resources. Thus, educational opportunities in natural resource management can lead to a wide range 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
- Ranch Management Minor (offered jointly with Department of Animal Science and Ness School of Management and Economics)
- Rangeland Ecology and Management Minor

Graduate Programs*

- Biological Sciences (M.S.) - Natural Resource Management Specialization
- Biological Sciences (Ph.D.) - Natural Resource Management Specialization
- Wildlife and Fisheries Sciences (M.S.) - Fisheries Sciences Specialization
- Wildlife and Fisheries Sciences (M.S.) - Wildlife Sciences Specialization
- Wildlife and Fisheries Sciences (Ph.D.)

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

Facilities and 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 and Engagement Opportunities

Student organizations conduct professional and social functions, serving 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
- SDSU Botany Club, a student chapter of the Botanical Society of America
- SDSU Park Interpretation and Management Club
- The SDSU Ecology Club, a student chapter of the Ecological Society of America
- SDSU Natural Resource Law Enforcement Student Club
- SDSU's Pheasants Forever, one of five collegiate PF chapters
- SDSU Range Club, the South Dakota Student Chapter of the Society for Range Management
- SDSU Wildlife and Fisheries Conservation Club, a student chapter of The Wildlife Society
- Judging Teams - many Rangeland Ecology and Management students 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

Hemachand Tummala, Department Head
Department of Pharmaceutical Sciences
Avera Health and Science Center 255, Box 2202C
605-688-4236 or 605-688-5598

Faculty

Professors

Wenfeng An, Shafiqur Rahman, Hemachand Tummala

Associate Professors

Gudiseva Chandrasekher, Hesham Fahmy, Jayarama Gunaje, Komal Raina, Joshua Reineke, Teresa Seefeldt

Assistant Professors

Tanvir Khaliq

Emeritus

Gary S. Chappell, Chandradhar Dwivedi, Xiangming Guan, Joel E. Houghlum, Danny Lattin, 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, nanomedicine, neuropharmacology, immunology, and eye diseases. The multidisciplinary research expertise includes medicinal chemistry, pharmacology, molecular biology, and pharmaceutics.

Programs

Majors

- Pharmaceutical Sciences (B.S.) in preparation for the Doctor of Pharmacy (Pharm.D.)

Minors

- Pharmacology and Toxicology Minor

Certificates

- Pharmacology Certificate

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 and 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

Shanna O'Connor, Department Head
Deidra Van Gilder, Assistant Department Head
Department of Pharmacy Practice
Avera Health and Science Center 133, Box 2202C
605-688-2100 or 605-688-6197

Faculty

Professors

James Clem, Daniel Hansen, William Hayes, Dennis Hedge, Jodi Heins, Thaddaus Hellwig, Wendy Jensen Bender, John Kappes, Brad Laible, Michael Lemon, Brittney Meyer, Stacy Peters, Joey Strain, Deidra Van Gilder

Associate Professors

Jordan Baye, Joe Berendse, Jeremy Daniel, Mike Farley, Amy Heiberger, Kyle LaPorte, Shanna O'Connor, Kari Taggart

Assistant Professors

Scout Forbes-Hurd, Alex Middendorf, Emily Van Klompenburg, Brianna Jansma Vant Hul

Emeritus

Debra Farver, Janet Fischer, David Helgeland, Brian Kaatz, Kimberly Messerschmidt, Jane Mort

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.

Programs

Graduate Programs*

- Pharmacy (Pharm.D.)

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

Facilities and Services

The Department of Pharmacy Practice is located in the Avera Health and Science Center and at Avera Metro Center in 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 Undergraduate Nursing

Heidi Mennenga, Associate Dean for Academic Programs
Department of Undergraduate Nursing
Wagner Hall 217, Box 2275
605-688-6924

Faculty

Professors

Mary Anne Krogh, Heidi Mennenga, Uzma Zaidi

Associate Professors

Robin Brown, Karin Emery, Sarah Mollman

Assistant Professors

Brittany Brennan, Nicole Carlson, Samantha Fischbach, Michelle Lichtenberg, Danielle Schievelbein, Abby Seydel, Alyssa Zweifel

Clinical Associate Professors

Robin Arends

Clinical Assistant Professors

Dannica Callies, Theresa Garren-Grubbs, Lea Niederbaumer, Adam Norenberg, Christina Plemmons, Nicole Selle, Amy VahnDijk

Lecturers

Nicole Albert, Janice Conlee, Becka Foerster, Anna Foster, Erika Huber, Caitlyn Ireland, Amanda Mehlhaff, Jody Ness, Annette Ray, Takara Schomberg, Allyson Stromer, Megan Watson

Instructors

Danielle Currier, Brittany Fenderson, Traci Gislason, Wayne Hintz, LeAnn Lamb, Kate Luecke, Bailey Marler, Amanda Sandager, Corynn Vande Kamp, Megan Veldkamp, Deborah Venable, Patrick Verley, Abby Westphalen, Renee Zacher

Emeritus

Paula Carson, Gloria Craig, Cynthia Elverson, Margaret Hegge, Kay Foland, Barbara Hobbs, Sharon Hofland, Martha Iken, MaryLou Mylant, Coral Joffer, Roberta Olson, Tom Stenvig, Lois Tschetter, Jo Voss

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.

Programs

Majors

- Health Studies (B.S.) - Innovative Healthcare Leadership Specialization
- Nursing (B.S.N.)
- Nursing (B.S.N.) - Accelerated Program
- Nursing (B.S.N.) - RN to B.S.N.

Minors

- Health Science Minor

Certificates

- Gateway to Health Sciences Certificate
- Rural Health Certificate

Accreditation and 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 and 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 and 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 and Biomedical Sciences

Angela Pillatzki, Department Head
Department of Veterinary and Biomedical Sciences
Animal Disease Research and Diagnostic Laboratory 1105, Box 2175
605-688-5171

Faculty

Distinguished Professors

Eric Nelson

Professors

Russell Daly, David Knudsen, Alan Young

Associate Professors

Peter Moisan, Angela Pillatzki

Assistant Professors

Keith Koistinen, Sunil Mor, Tamer Sharafeldin, Denusha Shrestha, Manuel Vasquez-Hidalgo, Hilary Ward

Clinical Assistant Professors

Kerry Blanton, Beverly Cassady, Aziz Siddiqui

Adjunct Professors

Tom Bragg, Benjamin Hause, Jessica Juarez, Dustin Oedekoven, Sheela Ramamoorthy, Joy Scaria, Robert Schaut

Emeritus

Christopher Chase, Jane Christopher-Hennings, David Francis, Edward Hamilton, Larry Holler, Darrell Johnson, Duane Matthees, Nancy Thiex, David Zeman

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.)
- Biological Sciences (M.S.) - Veterinary Microbiology Emphasis
- Biological Sciences (M.S.) - Veterinary Pathology Emphasis
- Biological Sciences (M.S.) - Veterinary Medicine Specialization
- Biological Sciences (Ph.D.)
- Biological Sciences (Ph.D.) - Veterinary Microbiology Specialization
- Biological Sciences (Ph.D.) - Veterinary Pathobiology Specialization
- Professional Program in Veterinary Medicine (2+2 collaborative program with the University of Minnesota's College of Veterinary Medicine leading to a Doctor of Veterinary Medicine (DVM) degree)

* 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 and Services

- Animal Disease Research and Diagnostic Laboratory
- Food Safety Microbiology Laboratory

Student Support and Engagement Opportunities

The SDSU Department of Veterinary and Biomedical Sciences 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.

McComish Department of Electrical Engineering and Computer Science

Sungyong Jung, Department Head
McComish Department of Electrical Engineering and Computer Science
Daktronics Engineering Hall 214
605-688-4526

Faculty

Professors

Steven Hietpas, Sungyong Jung, Rajesh Kavasseri

Associate Professors

Robert Fourney, Timothy Hansen, Junjian Qi, Songxin Tan, Kwanghee Won

Assistant Professors

Jun Huang, Chulwoo Pack, Xiaojun Xian

Lecturers

Kenneth Gamradt, Paula Kurtenbach, Paul Weist

Instructors

Jerry Cooley, James Galipeau

Emeritus

Madeleine Andrawis, Lewis Brown, Virgil Ellerbruch, David Galipeau, George Hamer, Dennis Helder, Duane Sander, Sung Shin

Overview

The McComish Department of Electrical Engineering and Computer Science 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 artificial intelligence, machine learning, 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

Certificates

- Gateway to Digital Technology Certificate

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 and 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 and 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.

Ness School of Management and Economics

Joseph Santos, Ness Endowed Director
Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall
605-688-4141

Faculty

Professors

David Davis, Matthew Diersen, Nicole Klein, George Langelett, Huitian Lu, David Palmer, Joseph Santos, Evert Van der Sluis, Zhiguang Wang, Jason Zimmerman

Associate Professors

Axton Betz-Hamilton, Matthew Elliott, Michelle Fleig-Palmer, Hailong Jin, Ekaterina Koromyslova, Andrea Leschewski, Craig Silvernagel, Nacasius Ujah, Tong Wang

Assistant Professors

Whoi Cho, Rohini Daraboina, Xiaozhou Ding, Jaehyeon Kim, Shirley Liu, Brittany McKnight, Oscar Sarasty, Sarah Sellars, Biying Yang

Lecturers

Victoria Dubbelde, Barbara Heller, Elijah Kosse, Ryan McKnight

Instructors

Monty Bohrer, Bruce Johnson, Darin Wipf

Field Specialists

Heather Gessner, Thi Yen Hoanh Le

Emeritus

David L. Chicoine, Carol Cumber, Thomas Dobbs, Scott Fausti, Larry Janssen, Eluned Jones, Han Kim, Charles Lamberton, 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, Consumer Behavior, Decision Science, Economics, Entrepreneurial Studies, Finance, Human Resource Management, Management, Marketing and Operations Management. The curriculum provides students with experience in accounting, agribusiness, agricultural finance, banking, business finance, business management, entrepreneurship, farm and ranch management, financial planning, marketing, real estate appraisal, sales, and related fields. Faculty members are strongly dedicated to preparing students for successful careers.

Programs

Majors

- Accounting (B.A./B.S.) (College of Arts, Humanities and Social Sciences)
- Agricultural Business (B.S.) (College of Agriculture, Food and Environmental Sciences)
- Business Economics (B.A./B.S.) (College of Arts, Humanities and Social Sciences)
- Consumer Behavior (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)
- Operations Management (B.S.) (Jerome J. Lohr College of Engineering)

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)
- Financial Counseling and Planning 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 the Department of Animal Science and Department of Natural Resource Management)

Certificate Programs

- Agricultural and Environmental Law Certificate (College of Agriculture, Food and Environmental Sciences)
- Gateway to Business Certificate (College of Arts, Humanities and Social Sciences)
- New Product and Venture Development Certificate (College of Arts, Humanities and Social Sciences)

Graduate Programs*

- Economics (M.S.) (traditional and accelerated)
- Environmental Policy Certificate
- Family Financial Planning Certificate
- Management Foundations Certificate
- Operations Management (M.S.)

- Professional Management Certificate
- Professional Science (M.S.) - Environmental Policy Emphasis
- Real Estate Certificate

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

Accreditation

The Ness School of Management and Economics is accredited by the Association to Advance Collegiate Schools of Business International (AACSB).

Facilities and 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, faculty research, 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 and 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, Business Consulting Club, Economics Club, FIRE (Finance, Insurance and Real Estate) Club, Investment Club, NAMA (National Agri-Marketing Association) Club, and Women in Business 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.

Accelerated Master's Degree in Economics and Operations Management

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 of 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 and Global Studies

Christine Garst-Santos, Director
School of American and Global Studies
Lincoln Hall 132, Box 2212
605-688-5101

Faculty

Distinguished Professors

Molly Enz

Professors

Marie-Pierre Caquot Baggett, Evren Celik Wiltse, Gregory Peterson, William Prigge, Maria Ramos-García, Eckhard Röhlz, David Wiltse, Graham Wrightson

Associate Professors

José Álvarez, Christine Garst-Santos, Lisa Hager, Luz Angélica Kirschner, James Murphy, Dale Potts, Maria Spitz, Charles Vollan

Assistant Professors

Jamie Folsom, Erin Griffin, Joshua Rudnik

Lecturers

Macarena Escondrillas, George Tsakiridis

Emeritus

Ann Marie Bahr, Phillip Baker, Patricia Beattie, Rodney Bell, Dennis Bielfeldt, Robert Burns, Karen Cárdenas, David Crain, Michael Funchion, Delmer Lonowski, 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 and Indigenous studies, French studies, German, global studies, history, political science and Spanish, along with minors in legal studies, philosophy and religion in addition to certificates in American civic traditions, basic Oceti Sakowin language proficiency, basic Spanish language proficiency, lobbying and government advocacy, public service, and 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 prepare students to live in an interconnected world and to understand and appreciate the variety of human experiences shaped 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 and American Indian and Indigenous Studies 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 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 and 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
- Oceti Sakowin Language Minor
- Philosophy Minor
- Political Science Minor
- Religion Minor
- Spanish Minor

Certificates

- American Civic Traditions Certificate
- Basic French Language Proficiency Certificate
- Basic German Language Proficiency Certificate
- Basic Oceti Sakowin Language Certificate
- Basic Spanish Language Proficiency Certificate
- Lobbying and Government Advocacy Certificate
- Public Service Certificate
- Workplace Intercultural Competence Certificate

Pre-Professional Interest Areas

- Pre-Law
- Pre-Ministerial

Facilities and 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 and Engagement Opportunities

The school provides numerous opportunities for student involvement through 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 and Journalism

Joshua Westwick, Director
Rebecca A. Kuehl, Associate Director
School of Communication and Journalism
Yeager Hall 211, Box 2235
605-688-4171

Faculty

Professors

Jenn Anderson, Rocky Dailey, Karla Hunter, Rebecca A. Kuehl, Joshua Westwick

Associate Professors

Marina Hendricks

Associate Professors of Practice

Heather Solberg

Assistant Professors

Shola Aromona, Hayden Barber, Andrea Carlile, Hyesoo Chang, Erica Summerfield

Assistant Professors of Practice

James Helland, Frank Robertson

Senior Lecturers

Mary Jo Nesmith

Emeritus

Mary Arnold, Charles Cecil, Jack Getz, Laurie Haleta, Joel Hefling, Jerry Jorgensen, Roxanne Lucchesi, Lyle Olson, Mary Perpich, James Paulson, Michael Schliessmann

Overview

The School of Communication and Journalism fosters the development of exemplary communicators as industry leaders, scholars, professionals, entrepreneurs, 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 (offered jointly with the College of Agriculture, Food and Environmental Sciences)
- Communication Studies (B.A./B.S.)
- Communication Studies (B.A./B.S.) - Communication 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 (offered jointly with the Ness School of Management and Economics)
- Professional Communication Minor (offered jointly with the School of English and Interdisciplinary Studies)
- 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 - Foundations of Communication (COM) [SGR #2, HSDC] concurrently. The disposition of the application for advanced placement rests with the Professional Academic Advisor.

Facilities and 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 the longtime editor of the Argus Leader in Sioux Falls. 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 known as The Den, 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 and 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
- *The Collegian*
- KSDJ

- Public Relations Student Society of America (PRSSA)

Jackrabbits Forensics - Opportunities are provided for participation in SDSU's nationally recognized intercollegiate forensics (competitive speech and debate) 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 Dr. Andrea Carlile, Director of Forensics.

Being involved in a student organization is a great way to spend time with other students in the school, promote activities on campus, and gain leadership skills. The school also has four honor societies/organizations for qualified students: Alpha Delta Sigma (Advertising), Kappa Tau Alpha (Journalism), Lambda Pi Eta (Communication Studies), and Pi Kappa Delta (Forensics).

School of Design

Pat Crawford, Director

School of Design

Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
605-688-4103

Faculty

Professors

Leda Cempellin, Pat Crawford

Professors of Practice

Sean Ervin

Associate Professors

Diana Behl, Donald Burger, Elizabeth Tofte

Assistant Professors

Mohamed Ahmed, Guido Alvarez, Hamid Amini, Robert Dalton, Ali Moazzeni Khorasgani, Marisa TenBrink

Assistant Professors of Practice

Jimena Vivas

Senior Lecturers

Peter Reichardt, Mark Stemwedel

Lecturers

Jeremiah Bergstrom, Shannon Frewaldt

Instructors

Sandra Callies, Sarah Mannes Homstad, Erik Ritter, Kristyn Weaver

Emeritus

Linda Nussbaumer, Michael (Tim) Steele, Signe Stuart, Scott Wallace

Overview

Inspiring Creative Communities.

The School of Design provides an opportunity for students 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, Interior Design is accredited by CIDA; Studio Art, Graphic Design and Interior Design are accredited by NASAD.

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 (offered jointly with the School of English and Interdisciplinary Studies)
- 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.

AAF-SD, American Advertising Federation South Dakota, 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.

ACSA, The Association of Collegiate Schools of Architecture, representing the role of schools in the development of architects, 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.

AXP, The Architectural Experience Program identifies the comprehensive experience that is essential for the independent practice of architecture. AXP is developed and administered by NCARB. SDSU's Department of Architecture requires enrollment in AXP for graduation and has a faculty AXP Coordinator for counseling and mentorship.

CAA, College Art Association was founded in 1911 and it is the premier professional association for the fine arts and art history, with over 85 affiliated societies. CAA promotes scholarship, career development, and advocacy in the practice and history of the visual arts.

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."

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.

Facilities and Services

The School of Design provides specialized art, architecture and design studios: located in the Chicoine Architecture Mathematics and Engineering Hall (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 complement 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 and 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)
- AIAS (American Institute of Architecture Students)
- NOMAS (National Organization of Minority Architecture Students)
- 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 and Human Development

Anne Karabon, Wendell and Marlys Thompson Director
 School of Education, Counseling and Human Development
 Wenona Hall 108
 605-688-5039

Faculty

Professors

Andrea Bjornestad, Mary Bowne, Hande Briddick, Kay Cutler, Amber Letcher, Jill Thorngren, Jay Trenhaile

Associate Professors

William Briddick, Christin Carotta, Anthony Durr, Nicole Graves, Carie Green, Patrick Hales, Laura Hasselquist, Anne Karabon, Erin Lavender-Stott, Katelyn Romsa

Assistant Professors

Hamada Elfragay, Allison Esparza, Lacy Knutson, Sergio Leiva, Heidi Sackreiter, Naomi Timm-Davis, Dakota Witzel

Senior Lecturers

Teri Johnson

Lecturers

Valerie Albert, Laura Gloege, Melissa Granum, Jen Johnson, Nicole Linstad, Bonnie Shinn, Lynda Venhuizen

Instructors

Laura Ackerwold, Carrie Benson, Renee Estebo, Jamie Fryslie, Katie Gilmore, Meagan Irvine-Miller

Emeritus

Lowell Amiotte, Keith Corbett, Alan Davis, 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, Andrew Stremmel, 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 emphasize the importance of how learning develops across the lifespan in a variety of learners. This includes differences in cognitive and learning styles, as well as variations 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 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. 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, BHSU - Rapid City, and online.

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 - Birth to Grade 3 (B.S.)
- Elementary Education (B.S.)
- Family and Consumer Sciences Education (B.S.)
- Human Development and Family Services (A.S.)
- Human Development and Family Science (B.S.)
- Special Education (B.S.)

Minors

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

Certificates

- Gateway to Teacher Education Certificate

Certification Preparation

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

Graduate Programs*

- Academic Advising Certificate
- Athletic Academic Advising Certificate
- Agricultural Education (M.S.)
- 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.)
- Educational Administration (M.Ed.)
- Human Sciences (M.S.) - Human Development and Family Science Specialization

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

Exploratory Studies Program for Deciding Students

SDSU allows admitted students to enter the university as a deciding student without a declared major to take a playful approach in the major selection process. With over 200 majors and minors available, this program is an option students have upon entering the university that provides them with an opportunity to explore a variety of academic areas prior to selecting a major. There are three core classes in the Exploratory Studies Program, along with other general education classes. Deciding student enrollment is normally for the freshman year, as they are encouraged to choose a major within two semesters. The three core classes of the program are designated with the ACS prefix, which stands for Academic and Career Success. This program assists students in the transition to the university,

provides them with resources to help them be a successful student, and helps them to solidify their major decision early in their college career. Deciding students are assisted during their first year by a support team of academic advisors, faculty, and staff in planning their college program and are encouraged to explore various fields of study when selecting a major.

In the Exploratory Studies Program, a two-credit class is designed to help students select a major: ACS 102 Exploratory Studies. SDSU has identified five (5) interest area tracks reflecting majors offered at the university. When students apply to SDSU, they select a track of their choice during the application process that best fits their interest areas. Each track exposes them to specific insights about careers and opportunities within specific fields of study, along with supporting coursework, to holistically support the students in their major selection process.

Exploratory Studies Program Tracks

- Track 1: Education, Social Sciences and Management
 - Education and Helping Fields
 - Business, Management and Economics
- Track 2: Humanities, Fine Arts and Design
- Track 3: Health Sciences
- Track 4: Engineering, Technology and Math
- Track 5: Agriculture and Natural Sciences

Students are expected to be in good academic standing as they explore academic and career options and declare a major. Academic advisors assist first year students to identify their interests, aptitudes, and abilities. Students work with advisors to plan out a plan of study that will meet their interests and needs. Along with ACS 102 Exploratory Studies, 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. The third core class of the Exploratory Studies Program is ACS 143 Mastering Lifetime Learning Skills, and it is designed to fine-tune academic and life skills for a successful college experience. 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	2	or	2
CMST 101 - Foundations of Communication (COM)	3	or	3
[SGR #2, HSDC]			
ENGL 101 - Composition I (COM) [SGR #1, HSDC]	3	or	3
MATH 114 - College Algebra (COM) [SGR #5, HSDC] (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 and Services

The school has several unique facilities and services.

- Child and Family Resource Network
 - Child and Adult Care Food Program
 - Toy and Resource Lending Library
- Fishback Center for Early Childhood Education

Student Support and 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.
- Chi Sigma Iota (CSI) is an international honor society for counseling students, professionals, and educators, specifically for those in CACREP-accredited counseling programs.
- 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.
- Human Development and Family Studies Club provides opportunities for professional development and service for students interested in the human services fields.

- American Association of Family and Consumer Sciences (AAFCS) and Family, Career, and Community Leaders of American (FCCLA) Alumni student organization provides opportunities for professional development and service and is open to all majors.

The school also provides information and assistance as students seek out scholarship, internship, and career opportunities.

School of English and Interdisciplinary Studies

Jason McEntee, Director
School of English and Interdisciplinary Studies
Pugsley Hall 301, Box 2218
605-688-5191

Faculty

Professors

Paul Baggett, Jason McEntee, Sharon Smith

Associate Professors

Katherine Malone, Michael Nagy

Assistant Professors

Nathan Serfling

Senior Lecturers

Amber Jensen

Lecturers

Randi Anderson, Darin Halvorsen, Gwen Horsley, Lisa Madsen, April Myrick, Stephen Snyder

Instructors

Samantha Algoood, Jodilyn Andrews, Daniel Spangler, Alayna Steckelberg

Emeritus

Bruce Brandt, Kathleen Danker, Kathleen Donovan, David Allen Evans, Mary Alice Haug, Michael Keller, Karen Kildahl, Mary O'Connor, Mary Ryder, John Taylor, George West, Paul Witherington, Charles Woodard

Overview

The School of English and Interdisciplinary Studies B.A. and B.S. programs prepare 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 a wide range of literatures and cultures.

For English majors, the school 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, and film studies.

The Interdisciplinary Studies major is designed for those pursuing unique educational goals. Each student develops a goal-driven plan of study approved by the school selecting coursework relevant to those unique goals. Intensive advising and career planning are critical elements to ensure the plan of study appropriately prepares students for future goals.

Programs

Majors

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

Minors

- English Minor
- Film Studies Minor (offered jointly with the School of Design)
- Professional Communication Minor (offered jointly with the School of Communication and Journalism)
- Women, Gender, and Sexuality Studies Minor

Graduate Programs*

- English (M.A.)
- Interdisciplinary Studies (M.S.)

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

Facilities and Services

The School of English and Interdisciplinary Studies is housed in historic Pugsley Hall (as of Spring 2014). The school supports local, regional, and state communities through speaking and teaching engagements, service learning, and events such as the annual publication of the Oakwood literary magazine. In addition, the School of English and Interdisciplinary Studies 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 and Engagement Opportunities

The English and Interdisciplinary Studies school 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.

School of Health and Human Sciences

Jessica Meendering, Director
School of Health and Human Sciences
Wagner Hall 425, Box 2275A
605-688-5161

Faculty

Professors

Moul Dey, Jessica Meendering

Associate Professors

Cody Christensen, Elizabeth Droke, Xu Li, Kunsoo Park, Bryan Romsa, Lee Weidauer

Assistant Professors

Allison Barry, Geb Bastian, Samitin Dhakal, Chaise Murphy, Marni Shoemaker

Clinical Associate Professors

Trevor Roiger, Mary Beth Zwart

Clinical Assistant Professor

Angela Brown

Senior Lecturers

Tracy Nelson

Lecturers

Christopher Comstock, Kimberly Gustafson

Instructors

Seth Daughters, Jason Haufschild, Maria Julius, Bonnie (Anne Marie) Junker, Emily Kranz, Riley Northrup, Roman Waldera

Emeritus

Julie Bell, James Booher, Georgia Crews, Michael Crews, Bernadine Enevoldsen, Harry Forsyth, Elizabeth Gorham, Patricia Hacker, Jane Hegland, Kendra Kattelmann, Nancy Lyons, Madeleine Rose, Robert Rose, Bonny Specker, Harriet Swedlund

Overview

The School of Health and Human 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 human 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.

Programs

Majors

- Aviation (B.S.) - Aviation Education Specialization
- Exercise Science (B.S.)
- Fashion Studies and Retail Merchandising (B.S.)
- Health Studies (B.S.)
- Health Studies (B.S.) - Health Promotion Specialization
- 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 Management (B.S.)

Minors

- Apparel and Fashion Studies Minor
- Aviation Minor
- Events and Facilities Administration Minor
- Health Education Minor
- Leadership and Management of Nonprofit Organizations Minor
- Leadership Minor
- Nutrition Minor
- Production and Service of Wine, Beer and Spirits Minor
- Sport Management Minor
- Retail Merchandising Minor
- Sustainable Local Foods Minor (Offered in collaboration with the Department of Agronomy, Horticulture and Plant Science)

Certificates

- Production and Service of Wine, Beer and Spirits Certificate

Certification Preparation

- Athletic Coaching Certification

Pre-Professional Interest Areas

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

Graduate Programs*

- Athletic Training (M.S.)
- Nutrition and Dietetics (M.S.)
- 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 Management (M.S.)

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

Student Support and 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

Laura Diddle, Aaron Ragsdale, David Reynolds, Andrew Robinette, Emily Toronto, Jacob Wallace, Michael Walsh

Assistant Professors

Kevin Kessler, Elizabeth Robinson, Mark Stevens

Senior Lecturers

Yiqun Chen

Instructors

Anna DeGraff, Bradley Snyder

Theatre and Dance

Professors

Corey Shelsta, William Wood

Associate Professors

Melissa Hauschild-Mork, Lonnie Wilburn

Instructors

Casey Paradies

School of Performing Arts

Emeritus

John D. Ackman, Charles Canaan, John Colson, Don Crowe, Warren Hatfield, Corliss Johnson, James L. Johnson, Anthony Lis, 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 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

Music Program Application Requirements

- 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.
- 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:
 - successfully complete a jury examination each semester.
 - apply for and be granted approval to advance to upper level applied study (300-400 levels).
 - complete a minimum of 6 hours of upper level (300-400) applied study
- 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.
- Voice or instrumental proficiency is required of all keyboard majors.
- Ensemble Requirements:
 - 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.
 - Participation in small ensembles is strongly encouraged for all majors and minors.
- 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.
- Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her advisor.
- Recommendations for music entrepreneurship students wishing to enroll for the Internship experience must be issued by the program Coordinator.
- 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 and Services

The School of Performing Arts is located in the new, state-of-the-art Oscar Larson Performing Arts Center.

Student Support and 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 Associate Professor Jim Wood, Theatre Program Coordinator.

School of Psychology, Sociology and Rural Studies

Paul Markel, Director
School of Psychology, Sociology and Rural Studies
Psychology, Sociology and Rural Studies 107, Box 2120
605-688-4322

Faculty

Professors

Abdallah Badahdah, Paul Markel, Rebecca Martin, Tyler Miller, Debra Spear

Professors of Practice

Vaughn Estes, Matt Miller

Associate Professors

Weiwei Zhang

Assistant Professors

Patricia Ahmed, Matt Filteau, Abigail Tobias-Lauerman

Senior Lecturers

Pirita See

Lecturers

Ellie Arndt

Emeritus

Allen Branum, Robert Burke, Mary Emery, Geoffrey Grant, Diane Kayongo-Male, Virginia Norris, Brady Phelps, Meredith Redlin, 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 school 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 (B.A./B.S.)
- Sociology (B.S.) - Teaching Specialization

Minors

- Criminal Justice Minor
- Mental Health Services Minor
- Psychology Minor
- Sociology Minor

Graduate Programs*

- Social Science (M.S.)
- Social Science (Ph.D.)

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

Facilities and Services

The school administers the Center for Rural Vitality and Community Well-Being, which provides data, in-depth analysis of data, and training to individuals, businesses and governmental agencies. The Center also fosters community engagement and interdisciplinary research associated with rural vitality and community well-being.

Student Support and 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 school sponsors four student organizations, the Criminology Club, the Psychology Club, Psi Chi - the International Honor Society in Psychology, and the Sociology Club. 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, and Continuing Education Programs

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. 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 collaborates with the academic units to broaden the reach of SDSU, with a commitment to providing quality education no matter where students reside. Coursework and programs offered off-campus and online 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.

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.

Off-Campus Locations

SDSU, in partnership with the other SD Board of Regents institutions, offers advising and support services, courses and programs at off-campus locations across South Dakota. SDSU's College of Education and Human Sciences provides academic program at Black Hills State University – Rapid City. SDSU's College of Nursing provides academic programming in Rapid City and Sioux Falls and the College of Pharmacy and Allied Health Professions provides academic offerings in Brookings, Huron, Madison, Rapid City and Sioux Falls. SDSU's College of Agriculture, Food and Environmental Sciences provides academic programming in Pierre. For more information regarding offerings at these off-campus 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 online 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 comparable 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 605-688-4154, 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. 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. For more information visit the Summer Term website.

High School Dual Enrollment

Dual enrollment 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 can choose from numerous on-campus and online general education courses and may elect to earn a Gateway certificate in a field of interest.

Benefits:

- jumpstart their post-secondary career,
- experience courses taught by college professors and expectations of college level coursework, and
- potentially reduce time to graduation from college*.

Students bringing in substantial credits may complete their degree in a condensed timeframe or may 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 guarantee a shorter path or time to a degree.

Compliance

Higher education is governed by state, federal and international laws and regulations, which impact areas including the delivery of online courses and programs, internships and other experiential learning activities, as well as programs designed and advertised as leading to professional licensure or certification.

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 State Authorization website.

Professional Licensure and Certification

South Dakota State University offers a variety of courses and programs and is committed to providing a quality education to help you reach your professional goals. Some professions require licensure or certification 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 several degree programs at South Dakota State University have been designed to meet the licensure or certification requirements in South Dakota and prepare students to sit for licensure or certification exams in South Dakota. The various licensing boards in each state are responsible for setting requirements for licensure or 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 or certification outside the state of South Dakota can find information pertaining to the licensure or certification 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 academic program that would lead to licensure or certification, to best understand the requirements in your intended state of residence. Assistance will be provided to candidates by contacting the appropriate program advisor. SDSU is unable to enroll students who will be physically located in a state or territory on the first day of class in the licensure program in which the SDSU professional licensure or certification program does not meet or not yet determined to meet the educational requirements for licensure or certification.

Continuing Education and Microcredentials

South Dakota State University has a rich history of providing opportunities and access to higher education pathways leading to degrees through its land-grant mission and is well-positioned to provide alternative credentials through microcredentials in support of lifelong learning initiatives. SDSU's Pathway to Premier 2030 drives the university to develop and invest in continuing education opportunities with an emphasis on workforce and economic development, utilize high-impact processes to prepare individuals to become global citizens, expand outreach and educational opportunities through collaborative partnerships, and develop university staff through professional development and training programs.

Continuing Education Units

The Office of Continuing and Distance Education can authorize Continuing Education Units (CEUs). 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. Visit the Continuing Education Units website to learn more about offering CEUs for your next workshop, short course, or conference.

Digital Badges

South Dakota State University, in partnership with Credly, offers secure, verifiable digital credentials that showcase individuals' skills and achievements. These digital badges provide a trusted method for sharing and validating competencies with employers, colleagues, and institutions. For more information, please visit the Digital Badges website.

Career Academy from Coursera

Through its partnership with Coursera, South Dakota State University offers currently enrolled students, faculty, and staff complimentary access to the Coursera Career Academy—a comprehensive catalog of non-credit courses and professional certificates. This initiative supports flexible learning, career development, and global engagement by connecting participants with a worldwide network of learners. For more information, please visit the Career Academy website.

Professional Development Courses

SDSU academic units offer a variety of professional development and continuing education programming specific to their field of study. For more information, please visit the following websites:

- Child and Family Resource Network
- Nursing Continuing Professional Development
- Pharmacy and Allied Health Professions Preceptor Training and Continuing Education
- SDSU Extension



Degrees and Associated Majors

Degree Definitions

Associate Degree

Associate of Arts (A.A.) and Associate of Science (A.S.) degrees are typically two-year transfer degrees. Within the Regental system, these degrees are often complementary to existing four-year bachelor's degrees in closely aligned academic fields. Universities award an associate degree to a student for satisfactory completion of a prescribed course of study. Associate degree programs require a minimum of sixty (60) credits. The curricular structure of an associate's degree program includes a system general education core curriculum, support courses, major courses, and electives.

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 for satisfactory completion of a prescribed course of study. Bachelor's degree programs shall require a minimum of one hundred twenty (120) credit hours. 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, 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 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 other 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.

Programs Sorted Alphabetically

- Accounting (B.A./B.S.)
- 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 Civic Traditions Certificate
- 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
- Applied Thinking and Innovation Minor
- Architecture (B.F.A.)
- Art History Certificate
- Athletic Coaching Certification

- Aviation (B.S.) - Aviation Education Specialization
- Aviation Minor
- Basic French Language Proficiency Certificate
- Basic German Language Proficiency Certificate
- Basic Oceti Sakowin Language Certificate
- Basic Spanish Language Proficiency Certificate
- 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.)
- Bison Studies Certificate
- Bison Studies Minor
- Botany Minor
- Business Economics (B.A./B.S.)
- Ceramics Certificate
- Chemistry - ACS Certified (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.) - Communication Education Specialization
- Communication Studies Minor
- Community and Regional Planning (B.S.)
- Computer Engineering Minor
- Computer Science (B.S.)
- Computer Science Minor
- Concrete Industry Management (B.S.)
- Concrete Materials Science Minor
- 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 Behavior (B.S.)
- 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 - Birth to Grade 3 (B.S.)
- Early Childhood Education Minor
- 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.)
- Elementary Education (B.S.)
- Engineering for Precision Agriculture Minor
- Engineering Graphics Certificate
- Engineering Management Minor
- Engineering Technology (A.S.)
- English (B.A./B.S.)
- English (B.A./B.S.) - English Education Specialization
- English (B.A./B.S.) - Writing Specialization
- English Minor
- Entrepreneurial Studies (B.A./B.S.)
- Entrepreneurial Studies Minor
- Equine Studies Minor
- Events and Facilities Administration Minor

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.

- Exercise Science (B.S.)
- Family and Consumer Sciences Education (B.S.)
- Fashion Studies and Retail Merchandising (B.S.)
- Film Studies Minor
- Financial Counseling and Planning Minor
- Food Safety Minor
- Food Science (B.S.)
- French Studies (B.A.)
- French Studies (B.A.) - Teaching Specialization
- French Studies Minor
- Gateway to Agriculture Certificate
- Gateway to Architecture and Construction Certificate
- Gateway to Business Certificate
- Gateway to Digital Technology Certificate
- Gateway to Engineering Certificate
- Gateway to Health Sciences Certificate
- Gateway to STEM Certificate
- Gateway to Teacher Education Certificate
- 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
- Geospatial Intelligence Minor
- German (B.A.)
- German (B.A.) - Teaching Specialization
- German Minor
- Gerontology Minor
- Global Agricultural Leadership Certificate
- 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
- Health Studies (B.S.)
- Health Studies (B.S.) - Health Promotion Specialization
- Health Studies (B.S.) - Innovative Healthcare Leadership Specialization
- Healthcare Systems Engineering (B.S.)
- 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 Science (B.S.)
- Human Development and Family Science Minor
- Human Development and Family Services (A.S.)
- 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
- Lobbying and Government Advocacy 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
- Oceti Sakowin Language Minor
- Operations Management (B.S.)
- Painting Certificate
- Performing Arts Administration Minor
- Pharmaceutical Sciences (B.S.)
- Pharmacology and Toxicology Minor
- Pharmacology Certificate
- 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-Genetic Counseling
- 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
- Production and Service of Wine, Beer and Spirits Certificate
- Production and Service of Wine, Beer and Spirits Minor
- Professional Communication Minor
- Psychology (B.A./B.S.)
- Psychology (B.A./B.S.) - Teaching Specialization
- Psychology Minor
- Public Relations (B.A./B.S.)
- Public Relations Minor
- Public Service Certificate
- Ranch Management Minor
- Rangeland Ecology and Management Minor
- Rehabilitation Services Minor
- Religion Minor
- Respiratory Care (A.S.)
- Respiratory Care (B.S.)
- Retail Merchandising Minor
- Rural Health Certificate
- Sculpture Certificate
- Secondary Teacher Education - Certification Only
- 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
- Special Education (B.S.)
- Sport Management (B.S.)
- Sport Management Minor
- 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
- Surface Mount Technology Minor

- Sustainability Minor
- Sustainable Energy Systems Minor
- Sustainable Local Foods Minor
- Swine Science Certificate
- Theatre (B.A./B.S.)
- Theatre Minor
- Uncrewed Aircraft Systems Certificate
- Uncrewed Aircraft Systems Minor
- Wildlife and Fisheries Sciences (B.S.)
- Wizipan Leadership and Sustainability Certificate
- Women, Gender, and Sexuality Studies Minor
- Workplace Intercultural Competence Certificate

Programs Sorted by College

College of Agriculture, Food and 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.)

Certificates

- Agricultural and Environmental Law Certificate
- Bison Studies Certificate
- Gateway to Agriculture Certificate
- Global Agricultural Leadership Certificate

- Livestock and Animal Products Evaluation Certificate
- Swine Science Certificate
- Certification Preparation
- Soil Science Certification

Minors

- Agribusiness Marketing Minor
- Agricultural Business Minor
- Agronomy Minor
- Animal Health Minor
- Animal Science Minor
- Bison Studies 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 and Social Sciences

Associate of Arts

- General Studies (A.A.)
- Bachelor of Arts
- 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.)
- Music (B.A.) - Music Entrepreneurship Specialization
- Music (B.A.) - Music Studies Specialization
- Spanish (B.A.)
- Spanish (B.A.) - Teaching Specialization

Bachelor of Arts and Bachelor of Science

- Accounting (B.A./B.S.)
- Advertising (B.A./B.S.)
- Business Economics (B.A./B.S.)
- Communication Studies (B.A./B.S.)
- Communication Studies (B.A./B.S.) - Communication Education Specialization
- Criminology (B.A./B.S.)
- Economics (B.A./B.S.)
- English (B.A./B.S.)
- English (B.A./B.S.) - English Education Specialization
- English (B.A./B.S.) - Writing Specialization
- 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

- Consumer Behavior (B.S.)
- Sociology (B.S.) - Teaching Specialization

Certificates

- American Civic Traditions Certificate
- Animation Certificate
- Art History Certificate
- Basic French Language Proficiency Certificate
- Basic German Language Proficiency Certificate
- Basic Oceti Sakowin Language Certificate
- Basic Spanish Language Proficiency Certificate
- Ceramics Certificate
- Gateway to Architecture and Construction Certificate
- Gateway to Business Certificate
- Graphic Design Certificate
- Lobbying and Government Advocacy Certificate
- New Product and Venture Development Certificate
- Painting Certificate
- Printmaking Certificate
- Public Service Certificate
- Sculpture Certificate
- Wizipan Leadership and Sustainability 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
- Financial Counseling and Planning 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
- Oceti Sakowin Language Minor
- Performing Arts Administration Minor
- Philosophy Minor
- Political Science Minor
- Professional Communication Minor
- Psychology Minor
- Public Relations Minor
- Religion Minor
- Sociology Minor
- Spanish Minor
- Studio Arts Minor
- Theatre Minor
- Women, Gender, and Sexuality Studies Minor
- Pre-Professional Interest Areas
- Pre-Law
- Pre-Ministerial

College of Education and Human Sciences

Associate of Science

- Human Development and Family Services (A.S.)

Bachelor of Science

- Aviation (B.S.) - Aviation Education Specialization
- Early Childhood Education - Birth to Grade 3 (B.S.)
- Elementary Education (B.S.)
- Exercise Science (B.S.)
- Family and Consumer Sciences Education (B.S.)
- Fashion Studies and Retail Merchandising (B.S.)
- Health Studies (B.S.)
- Health Studies (B.S.) - Health Promotion Specialization
- Hospitality, Tourism, and Event Management (B.S.)
- Human Development and Family Science (B.S.)
- Leadership and Management of Nonprofit Organizations (B.S.)
- Nutrition and Dietetics (B.S.)
- Physical Education Teacher Education (B.S.)
- Special Education (B.S.)
- Sport Management (B.S.)

Certificates

- Gateway to Teacher Education Certificate

- Production and Service of Wine, Beer and Spirits Certificate

Certification Preparation

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

Minors

- Apparel and Fashion Studies Minor
- Aviation Minor
- Early Childhood Education Minor
- Events and Facilities Administration Minor
- Gerontology Minor
- Health Education Minor
- Human Development and Family Science Minor
- Leadership and Management of Nonprofit Organizations Minor
- Leadership Minor
- Nutrition Minor
- Production and Service of Wine, Beer and Spirits Minor
- Rehabilitation Services Minor
- Retail Merchandising Minor
- Sport Management Minor
- Pre-Professional Interest Areas
- Pre-Athletic Training
- Pre-Occupational Therapy
- Pre-Physical Therapy

College of Natural Sciences

Bachelor of Arts and 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 - ACS Certified (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

Certificates

- Bioprocessing Sciences Certificate
- Gateway to STEM Certificate
- Geographic Information Sciences Certificate
- Uncrewed Aircraft Systems Certificate

Minors

- Biology Minor
- Bioprocessing Sciences Minor
- Chemistry Minor
- Geographic Information Sciences Minor
- Geography Minor
- Geospatial Intelligence Minor
- Microbiology Minor
- Nuclear Engineering Minor
- Physics Minor

- Sustainability Minor
- Uncrewed Aircraft Systems Minor
- Pre-Professional Interest Areas
- Pre-Chiropractic
- Pre-Dental
- Pre-Genetic Counseling
- Pre-Medicine
- Pre-Mortuary
- Pre-Optometry
- Pre-Physician Assistant

College of Nursing

Bachelor of Science

- Health Studies (B.S.) - Innovative Healthcare Leadership Specialization

Bachelor of Science in Nursing

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

Certificates

- Gateway to Health Sciences Certificate
- Rural Health Certificate

Minors

- Health Science Minor

College of Pharmacy and 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.)

Certificates

- Pharmacology Certificate
- Phlebotomy Certificate

Minors

- Pharmacology and Toxicology Minor

Graduate School

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.)
- Healthcare Systems Engineering (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.)

Certificates

- Engineering Graphics Certificate
- Gateway to Digital Technology Certificate
- Gateway to Engineering Certificate
- Pre-Construction Planning Certificate

Minors

- Aerospace Engineering Minor
- Biomedical Engineering Minor
- Computer Engineering Minor
- Computer Science Minor
- Concrete Materials 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
- Surface Mount Technology Minor
- Sustainable Energy Systems Minor

Van D. and Barbara B. Fishback Honors College

Distinction

- Honors College Distinction

Minors

- Applied Thinking and Innovation Minor

Programs Sorted by Department

College of Agriculture, Food and 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.)
- Gateway to Agriculture Certificate
- Global Agricultural Leadership Certificate

College of Arts, Humanities and Social Sciences

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

College of Pharmacy and Allied Health Professions

- Pharmaceutical Sciences (B.S.)

Van D. and Barbara B. Fishback Honors College

- Applied Thinking and Innovation Minor
- Honors College Distinction

Department of Aerospace Studies

- Aerospace Studies Minor

Department of Agricultural and Biosystems Engineering

- Agricultural and Biosystems Engineering (B.S.)
- Agricultural Systems Technology (B.S.)
- Engineering for Precision Agriculture Minor
- Precision Agriculture (B.S.)
- Precision Agriculture Minor

Department of Agronomy, Horticulture and 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 and 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
- Bison Studies Certificate
- Bison Studies Minor
- Equine Studies Minor
- Livestock and Animal Products Evaluation Certificate
- Meat Science Minor
- Ranch Management Minor
- Swine Science Certificate

Department of Biology and Microbiology

- Biology (B.S.)
- Biology (B.S.) - Secondary Education Specialization
- Biology Minor
- Bioprocessing Sciences Certificate
- Bioprocessing Sciences Minor
- Biotechnology (B.S.)
- Human Biology (B.S.)
- Microbiology (B.S.)
- Microbiology Minor
- Pre-Chiropractic

- Pre-Dental
- Pre-Genetic Counseling
- Pre-Medicine
- Pre-Mortuary
- Pre-Optometry
- Pre-Physician Assistant

Department of Chemistry, Biochemistry and Physics

- Biochemistry (B.S.)
- Chemistry - ACS Certified (B.S.)
- Chemistry Education (B.S.)
- Chemistry Minor
- Gateway to STEM Certificate
- Nuclear Engineering Minor
- Physics (B.S.)
- Physics (B.S.) - Science Teaching Specialization
- Physics Minor

Department of Civil and Environmental Engineering

- Civil Engineering (B.S.)

Department of Construction and Concrete Industry Management

- Concrete Industry Management (B.S.)
- Concrete Materials Science Minor
- 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.)
- Gateway to Engineering Certificate
- Heavy-Highway Construction Minor
- Mechatronics Technology Minor
- Pre-Construction Planning Certificate
- Surface Mount Technology Minor

Department of Dairy and 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 Geography and 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
- Geospatial Intelligence Minor
- Sustainability Minor
- Uncrewed Aircraft Systems Certificate
- Uncrewed Aircraft Systems Minor

Department of Graduate Nursing

Department of Mathematics and 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
- Healthcare Systems Engineering (B.S.)
- 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

- Pharmacology and Toxicology Minor
- Pharmacology Certificate

Department of Pharmacy Practice

Department of Undergraduate Nursing

- Gateway to Health Sciences Certificate
- Health Science Minor
- Health Studies (B.S.) - Innovative Healthcare Leadership Specialization
- Nursing (B.S.N.)
- Nursing (B.S.N.) - Accelerated Program
- Nursing (B.S.N.) - RN to B.S.N.
- Rural Health Certificate

Department of Veterinary and Biomedical Sciences

- Animal Health Minor
- Pre-Veterinary Medicine

McComish Department of Electrical Engineering and Computer Science

- Computer Engineering Minor
- Computer Science (B.S.)
- Computer Science Minor
- Electrical Engineering (B.S.)
- Gateway to Digital Technology Certificate
- Informatics Minor
- Software Engineering Minor

Ness School of Management and Economics

- Accounting (B.A./B.S.)
- Accounting Minor
- Agribusiness Marketing Minor
- Agricultural and Environmental Law Certificate
- Agricultural Business (B.S.)
- Agricultural Business Minor
- Business Economics (B.A./B.S.)
- Commodity Risk Management Minor
- Consumer Behavior (B.S.)
- Economics (B.A./B.S.)
- Economics (B.S.) - Agricultural Economics Specialization
- Economics Minor
- Entrepreneurial Studies (B.A./B.S.)
- Entrepreneurial Studies Minor
- Financial Counseling and Planning Minor
- Gateway to Business Certificate
- Human Resources Minor
- Land Valuation and Rural Real Estate Minor
- Management Minor
- Marketing Minor
- New Product and Venture Development Certificate
- Operations Management (B.S.)

School of American and Global Studies

- American Civic Traditions Certificate
- American Indian and Indigenous Studies (B.A.)
- American Indian and Indigenous Studies Minor
- Basic French Language Proficiency Certificate
- Basic German Language Proficiency Certificate
- Basic Oceti Sakowin Language Certificate
- Basic Spanish Language Proficiency Certificate
- 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
- Lobbying and Government Advocacy Certificate
- Oceti Sakowin Language Minor
- Philosophy Minor
- Political Science (B.A./B.S.)
- Political Science Minor
- Pre-Law
- Pre-Ministerial
- Public Service Certificate
- Religion Minor
- Spanish (B.A.)
- Spanish (B.A.) - Teaching Specialization
- Spanish Minor
- Wiziapan Leadership and Sustainability Certificate
- Workplace Intercultural Competence Certificate

School of Communication and Journalism

- Advertising (B.A./B.S.)
- Advertising Minor
- Communication Studies (B.A./B.S.)
- Communication Studies (B.A./B.S.) - Communication 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
- Gateway to Architecture and Construction Certificate
- 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.)
- Museum Studies Minor
- 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 and Human Development

- Early Childhood Education - Birth to Grade 3 (B.S.)
- Early Childhood Education Minor
- Education Curriculum for Teachers of Academic Subjects
- Elementary Education (B.S.)
- Family and Consumer Sciences Education (B.S.)
- Gateway to Teacher Education Certificate
- Gerontology Minor
- Human Development and Family Science (B.S.)
- Human Development and Family Science Minor
- Human Development and Family Services (A.S.)
- Rehabilitation Services Minor
- Secondary Teacher Education - Certification Only
- Special Education (B.S.)

School of English and Interdisciplinary Studies

- English (B.A./B.S.)
- English (B.A./B.S.) - English Education Specialization

- English (B.A./B.S.) - Writing Specialization
- English Minor
- Film Studies Minor
- Interdisciplinary Studies (B.A./B.S.)
- Professional Communication Minor
- Women, Gender, and Sexuality Studies Minor

School of Health and Human Sciences

- Apparel and Fashion Studies Minor
- Athletic Coaching Certification
- Aviation (B.S.) - Aviation Education Specialization
- Aviation Minor
- Events and Facilities Administration Minor
- Exercise Science (B.S.)
- Fashion Studies and Retail Merchandising (B.S.)
- Health Education Minor
- Health Studies (B.S.)
- Health Studies (B.S.) - Health Promotion Specialization
- 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
- Production and Service of Wine, Beer and Spirits Certificate
- Production and Service of Wine, Beer and Spirits Minor
- Retail Merchandising Minor
- Sport Management (B.S.)
- Sport Management Minor

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 and 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
- Sociology (B.A./B.S.)
- Sociology (B.S.) - Teaching Specialization
- Sociology 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.)

Bachelor of Arts

- 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.)
- Music (B.A.) - Music Entrepreneurship Specialization
- Music (B.A.) - Music Studies Specialization
- Spanish (B.A.)
- Spanish (B.A.) - Teaching Specialization

Bachelor of Arts and Bachelor of Science

- Accounting (B.A./B.S.)
- Advertising (B.A./B.S.)
- Business Economics (B.A./B.S.)
- Communication Studies (B.A./B.S.)
- Communication Studies (B.A./B.S.) - Communication Education Specialization
- Criminology (B.A./B.S.)
- Economics (B.A./B.S.)
- English (B.A./B.S.)
- English (B.A./B.S.) - English Education Specialization
- English (B.A./B.S.) - Writing Specialization
- 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
- Biochemistry (B.S.)
- Biology (B.S.)
- Biology (B.S.) - Secondary Education Specialization
- Biotechnology (B.S.)
- Chemistry - ACS Certified (B.S.)
- Chemistry Education (B.S.)
- Civil Engineering (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 Behavior (B.S.)
- Dairy Manufacturing (B.S.)
- Dairy Manufacturing (B.S.) - Microbiology Specialization
- Dairy Production (B.S.)
- Data Science (B.S.)
- Early Childhood Education - Birth to Grade 3 (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.)
- Elementary Education (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.)
- Health Studies (B.S.)
- Health Studies (B.S.) - Health Promotion Specialization
- Health Studies (B.S.) - Innovative Healthcare Leadership Specialization
- Healthcare Systems Engineering (B.S.)
- Horticulture (B.S.)
- Hospitality, Tourism, and Event Management (B.S.)
- Human Biology (B.S.)
- Human Development and Family Science (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
- Special Education (B.S.)
- Sport 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.)

Certificates

- Agricultural and Environmental Law Certificate
- American Civic Traditions Certificate
- Animation Certificate
- Art History Certificate
- Basic French Language Proficiency Certificate
- Basic German Language Proficiency Certificate
- Basic Oceti Sakowin Language Certificate
- Basic Spanish Language Proficiency Certificate
- Bioprocessing Sciences Certificate
- Bison Studies Certificate
- Ceramics Certificate
- Engineering Graphics Certificate
- Gateway to Agriculture Certificate

- Gateway to Architecture and Construction Certificate
- Gateway to Business Certificate
- Gateway to Digital Technology Certificate
- Gateway to Engineering Certificate
- Gateway to Health Sciences Certificate
- Gateway to STEM Certificate
- Gateway to Teacher Education Certificate
- Geographic Information Sciences Certificate
- Global Agricultural Leadership Certificate
- Graphic Design Certificate
- Livestock and Animal Products Evaluation Certificate
- Lobbying and Government Advocacy Certificate
- New Product and Venture Development Certificate
- Painting Certificate
- Pharmacology Certificate
- Phlebotomy Certificate
- Pre-Construction Planning Certificate
- Printmaking Certificate
- Production and Service of Wine, Beer and Spirits Certificate
- Public Service Certificate
- Rural Health Certificate
- Sculpture Certificate
- Swine Science Certificate
- Uncrewed Aircraft Systems Certificate
- Wikipan 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

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
- Applied Thinking and Innovation Minor
- Aviation Minor
- Biology Minor
- Biomedical Engineering Minor
- Bioprocessing Sciences Minor
- Bison Studies Minor
- Botany Minor
- Chemistry Minor
- Commodity Risk Management Minor
- Communication Studies Minor

- Computer Engineering Minor
- Computer Science Minor
- Concrete Materials 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 and Planning Minor
- Food Safety Minor
- French Studies Minor
- Geographic Information Sciences Minor
- Geography Minor
- Geospatial Intelligence 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 Science 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
- Oceti Sakowin Language Minor
- Performing Arts Administration Minor
- Pharmacology and Toxicology Minor

- Philosophy Minor
- Physics Minor
- Political Science Minor
- Precision Agriculture Minor
- Production and Service of Wine, Beer and Spirits Minor
- Professional Communication Minor
- Psychology Minor
- Public Relations Minor
- Ranch Management Minor
- Rangeland Ecology and Management Minor
- Rehabilitation Services Minor
- Religion Minor
- Retail Merchandising Minor
- Sociology Minor
- Software Engineering Minor
- Soil Health Management Minor
- Spanish Minor
- Sport Management Minor
- Statistics Minor
- Studio Arts Minor
- Surface Mount Technology Minor
- Sustainability Minor
- Sustainable Energy Systems Minor
- Sustainable Local Foods Minor
- Theatre Minor
- Uncrewed Aircraft Systems Minor
- Women, Gender, and Sexuality Studies Minor

Pre-Professional Interest Areas

- Pre-Athletic Training
- Pre-Chiropractic
- Pre-Dental
- Pre-Genetic Counseling
- 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 and at Off-Campus Locations

Online Programs

Associate Degrees

- Agricultural Science (A.S.)
- Construction Technology (A.S.)
- Data Science (A.S.)
- General Studies (A.A.)
- Human Development and Family Services (A.S.)

Bachelor's Degrees

- Agricultural Business (B.S.)
- Concrete Industry Management (B.S.)
- General Studies (B.G.S.)
- Geographic Information Sciences (B.S.)
- Geography (B.A./B.S.)
- Human Development and Family Science (B.S.)
- Interdisciplinary Studies (B.A./B.S.)

- Medical Laboratory Science (B.S.) - Accelerated Program
- Medical Laboratory Science (B.S.) - Upward Mobility Program
- Nursing (B.S.N.) - RN to B.S.N.
- Psychology (B.A./B.S.)
- Sociology (B.A./B.S.)

Minors

- Agricultural Business Minor
- Criminal Justice Minor
- Early Childhood Education Minor
- Engineering Management Minor
- Geographic Information Sciences Minor
- Geography Minor
- Geospatial Intelligence Minor
- Gerontology Minor
- Health Communication Minor
- History Minor
- Human Development and Family Science Minor
- Human Resources Minor
- Mental Health Services Minor
- Psychology Minor
- Rehabilitation Services Minor
- Sociology Minor
- Spanish Minor

Certificates

- Agricultural and Environmental Law Certificate
- American Civic Traditions Certificate
- Basic French Language Proficiency Certificate
- Basic German Language Proficiency Certificate
- Basic Oceti Sakowin Language Certificate
- Basic Spanish Language Proficiency Certificate
- Gateway to Agriculture Certificate
- Gateway to Architecture and Construction Certificate
- Gateway to Business Certificate
- Gateway to Digital Technology Certificate
- Gateway to Engineering Certificate
- Gateway to Health Sciences Certificate
- Gateway to STEM Certificate
- Gateway to Teacher Education Certificate
- Geographic Information Sciences Certificate
- New Product and Venture Development Certificate
- Pre-Construction Planning Certificate
- Rural Health Certificate
- Swine Science Certificate
- Wikipan Leadership and Sustainability Certificate

Brookings

Associate Degrees

- Respiratory Care (A.S.)

Bachelor's Degrees

- Respiratory Care (B.S.)

Huron

Associate Degrees

- Respiratory Care (A.S.)

Bachelor's Degrees

- Respiratory Care (B.S.)

Madison

Associate Degrees

- Respiratory Care (A.S.)

Bachelor's Degrees

- Respiratory Care (B.S.)

Pierre

Associate Degrees

- Agricultural Science (A.S.)
- 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.)

*Programs are approved at this location; however, there may be limited onsite course offerings through SDSU. For full program completion students may take a combination of onsite and online courses.

Sioux Falls

Associate Degrees

- Respiratory Care (A.S.)

Bachelor's Degrees

- Nursing (B.S.N.)
- Nursing (B.S.N.) - Accelerated Program
- Respiratory Care (B.S.)



Academic Programs

Certificates

Agricultural and Environmental Law Certificate

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
605-688-4141

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.

Course Delivery Format

Course content is delivered online or on campus. In addition, selective coursework may be provided online through the Innovative Digital Education Alliance (IDEA) program, a collaborative, multi-institutional consortium.

Requirements for Agricultural and Environmental Law Certificate: 15 Credits

Select three courses from the following. Credits: 9

*Must include one of these courses.

- AGE/ BADM 457 - Business Ethics (COM) Credits: 3
- AGE/ BLAW 352 - Agricultural Law Credits: 3 *
- AGE/ BLAW 366 - Food Law Credits: 3
- AGE/ BLAW 462 - Environmental Law Credits: 3 *
- BLAW/ HLTH 451 - 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

American Civic Traditions Certificate

Program Coordinator/Contact

Dale Potts, Associate Professor of History
School of American and Global Studies
Lincoln Hall 215, Box 2212
605-688-6345

Program Information

Contemporary issues of social, political, cultural, and community importance require American citizens equipped for civic engagement. This four-course certificate in American Civic Traditions prepares students with the foundational knowledge to understand current debates through the lens of history, political structures, and differing perspectives so as to cultivate an educated and engaged citizenry.

Course Delivery Format

The program provides courses online and face-to-face on campus.

Requirements for American Civic Traditions Certificate: 12 Credits

- HIST 151 - United States History I (COM) [SGR #3, HSDC] [CIV] Credits: 3
- HIST 152 - United States History II (COM) [SGR #3, HSDC] [CIV] Credits: 3
- POLS 100 - American Government (COM) [SGR #3, HSDC] [CIV] Credits: 3
- POLS 210 - State and Local Government (COM) [SGR #3, HSDC] [CIV] Credits: 3

Total Required Credits: 12

Animation Certificate

Program Coordinator/Contact

Marisa TenBrink, Assistant Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

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.

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 - 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, Associate Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Course Delivery Format

Course content is delivered through classroom lectures.

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.

Requirements for Art History Certificate: 12 Credits

- ARTH 211 - History of World Art I (COM) [SGR #4, HSDC] Credits: 3
- ARTH 212 - History of World Art II (COM) [SGR #4, HSDC] 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

Basic French Language Proficiency Certificate

Program Coordinator/Contact

Marie-Pierre Caquot Baggett, Professor of French
School of American and Global Studies
Lincoln Hall 319, Box 2212
605-688-4278

Program Information

The Basic French Language Proficiency Certificate provides students a language certificate that marks their achievements in acquiring the French language at the basic level. The certificate includes elementary and intermediate language study, with a focus on developing all modes of language production: speaking, listening, writing, and reading in an everyday context. The certificate may be completed as a stand-alone program and may be taken by any student regardless of major. The Basic French Language Proficiency Certificate is particularly relevant for majors in business, engineering, agriculture, health care, and education.

Course Delivery Format

Courses are delivered on-campus and online.

Requirements for Basic French Language Proficiency Certificate: 14 Credits

- FREN 101 - Introductory French I (COM) [SGR #4, HSDC] Credits: 4
- FREN 102 - Introductory French II (COM) [SGR #4, HSDC] Credits: 4
- FREN 201 - Intermediate French I (COM) [SGR #4, HSDC] Credits: 3
- FREN 202 - Intermediate French II (COM) [SGR #4, HSDC] Credits: 3

Total Required Credits: 14

Basic German Language Proficiency Certificate

Program Coordinator/Contact

Eckhard Rölz, Professor of German
School of American and Global Studies
Lincoln Hall 231, Box 2212
605-688-4276

Program Information

The Basic German Language Proficiency Certificate provides students a language certificate that marks their achievements in acquiring the German language at the basic level. The certificate includes elementary and intermediate language study, with a focus on developing all modes of language production: speaking, listening, writing, and reading in an everyday context. The certificate may be completed as a stand-alone program and may be taken by any student regardless of major. The Basic German Language Proficiency Certificate is particularly relevant for majors in business, engineering, agriculture, health care, and education.

Course Delivery Format

Courses are delivered on-campus and online.

Requirements for Basic German Language Proficiency Certificate: 14 Credits

- GLAN/ GER 101 - Introductory German I (COM) [SGR #4, HSDC] Credits: 4
- GLAN/ GER 102 - Introductory German II (COM) [SGR #4, HSDC] Credits: 4
- GLAN/ GER 201 - Intermediate German I (COM) [SGR #4, HSDC] Credits: 3
- GLAN/ GER 202 - Intermediate German II (COM) [SGR #4, HSDC] Credits: 3

Total Required Credits: 14

Basic Oceti Sakowin Language Certificate

Program Coordinator/Contact

Erin Griffin, Assistant Professor
School of American and Global Studies
Lincoln Hall 229, Box 2212
605-688-5101

Program Information

The Basic Oceti Sakowin Language Certificate provides students a language certificate that marks their achievements in acquiring Oceti Sakowin language, of which Dakota, Nakota, and Lakota are types of dialects, at the basic level. The certificate includes elementary and intermediate language study, with a focus on developing all modes of language production: speaking, listening, writing, and reading in an everyday context. The certificate may be completed as a stand-alone program and may be taken by any students regardless of major. The Basic Oceti Sakowin Language Certificate will be a value-added credential to students majoring in several programs in which communication with modern non-English language populations can be vital. Areas of study may include majors/programs in agriculture, business economics, communication, education, health sciences, and social sciences.

Course Delivery Format

Courses are delivered in face-to-face and online environments, utilizing lectures, discussions, and applied learning.

Requirements for Basic Oceti Sakowin Language Certificate: 14 Credits

- LAKL 101 - Introductory Lakota I (COM) [SGR #4, HSDC] Credits: 4
- LAKL 102 - Introductory Lakota II (COM) [SGR #4, HSDC] Credits: 4
- LAKL 201 - Intermediate Lakota I (COM) [SGR #4, HSDC] Credits: 3
- LAKL 202 - Intermediate Lakota II (COM) [SGR #4, HSDC] Credits: 3

Total Required Credits: 14

Basic Spanish Language Proficiency Certificate

Program Coordinator/Contact

José (Pepe) Álvarez, Ph.D., Associate Professor of Spanish
School of American and Global Studies
Lincoln Hall 321, Box 2212
605-688-4273

Program Information

The Basic Spanish Language Proficiency Certificate provides students a language certificate that marks their achievements in acquiring the Spanish language at the basic level. The certificate includes elementary and intermediate language study,

with a focus on developing all modes of language production: speaking, listening, writing, and reading in an everyday context. The certificate may be completed as a stand-alone program and may be taken by any student regardless of major. The Basic Spanish Language Proficiency Certificate is particularly relevant for majors in business, engineering, agriculture, health care, and education.

Course Delivery Format

Courses are delivered on-campus and online.

Requirements for Basic Spanish Language Proficiency Certificate: 14 Credits

- SPAN 101 - Introductory Spanish I (COM) [SGR #4, HSDC] Credits: 4
- SPAN 102 - Introductory Spanish II (COM) [SGR #4, HSDC] Credits: 4
- SPAN 201 - Intermediate Spanish I (COM) [SGR #4, HSDC] Credits: 3
- SPAN 202 - Intermediate Spanish II (COM) [SGR #4, HSDC] Credits: 3

Total Required Credits: 14

Bioprocessing Sciences Certificate

Program Coordinator/Contact

Jeremy Chambers, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141

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.

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

- BIOL 235 - Introduction to Biotechnology (COM) [SGR #6, HSDC] Credits: 2
- BIOL 235L - Introduction to Biotechnology Lab (COM) [SGR #6, HSDC] Credits: 1

Select from the following

Select two or more of the following.

- ABE 343 - Engineering Properties of Biological Materials Credits: 2
- ABE 343L - Engineering Properties of Biological Materials Lab Credits: 1
- ABE 411 - Design Project III Credits: 2 *
- ABE 444 - Unit Operations of Biological Materials Processing Credits: 3
- ABE 444L - Unit Operations of Biological Materials Processing Lab Credits: 1
- AST 443 - Food Processing and Engineering Fundamentals Credits: 2
- AST 443L - Food Processing and Engineering Fundamentals Lab Credits: 1
- BIOL 341 - Microbial Processes in Engineering and Natural Sciences Credits: 3 (SDSMT)
- CBE 410 - Brewing Science and Engineering Credits: 3 (SDSMT)
- CBE 410L - Brewing Science and Engineering Lab Credits: 1 (SDSMT)
- CBE 484 - Fundamentals of Biochemical Engineering Credits: 3 (SDSMT)
- CBE 484L - Biochemical Engineering Laboratory Credits: 1 (SDSMT)
- CBE 485 - Renewable and Sustainable Energy Credits: 3 (SDSMT)
- CBE 485L - Renewable and Sustainable Energy Lab Credits: 1 (SDSMT)
- CBE 467 - Process/Product Design for CBE Credits: 2 (SDSMT)
- CBE 490 - Seminar Credits: 1 (SDSMT)
- GE 425 - Occupational Safety and Health Management Credits: 3
- ME 311 - Thermodynamics I Credits: 3
or ME 314 - Thermodynamics Credits: 3
- ME 416 - Renewable Energy Systems Credits: 3
- MICR 450 - Applied Microbiology and Biotechnology Credits: 3
- MICR 311 - Food Microbiology Credits: 2
- MICR 311L - Food Microbiology Lab Credits: 2
- MICR 332 - Microbial Physiology Credits: 2

- MICR 332L - Microbial Physiology Lab Credits: 2
- MNET 231 - Manufacturing Processes I Credits: 2
- MNET 231L - Manufacturing Processes I Lab Credits: 1
- NUTR 426 - Production of Wine Beer Spirits Credits: 2
- NUTR 426L - Production of Wine Beer Spirits Lab Credits: 1
- OM 240 - Decision Making Processes in Management 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

Bison Studies Certificate

Program Coordinator/Contact

Philip Urso, Assistant Professor
Department of Animal Science
Animal Science Complex 218
605-688-6623

Program Information

The Bison Studies Certificate will prepare students on bison nutrition, herd management, health protocols, and grazing management. The certificate will focus on fundamentals of the production, day-to-day management, and raising bison for profit and cultural purposes.

Course Delivery Format

The program provides hands-on experiences in the classroom, laboratories, and field trips.

Requirements for Bison Studies Certificate: 12-13 Credits

- AS 101 - Introduction to Animal Science Credits: 3
and AS 101L - Introduction to Animal Science Lab Credits: 1
or WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- AS 231 - Introduction to Bison Management Credits: 3
- AS 431 - Advanced Bison Production Credits: 3
- RANG 205 - Introduction to Range Management [SGR #6, HSDC] Credits: 2
- RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1

Total Required Credits: 12-13

Ceramics Certificate

Program Coordinator/Contact

Diana Behl, Associate Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

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.

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 Concrete Industry 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.

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 - Parametric Modeling and Design Credits: 2
- MNET 220L - Parametric Modeling and Design Lab Credits: 1
- MNET 240 - Parametric Modeling and Design II Credits: 3
- MNET 243 - Introduction to Materials Science Credits: 2
- MNET 243L - Introduction to Materials Science Lab Credits: 1

Total Required Credits: 12

Gateway to Agriculture Certificate

Program Coordinator/Contact

James Connors, Associate Dean and Director of Academic Programs
College of Agriculture, Food and Environmental Sciences
Berg Agricultural Hall 162, Box 2207
605-688-5133

Program Information

The Gateway to Agriculture Certificate provides a jump start for students with a career interest in agriculture. Students will learn about different career paths in the agriculture, food and natural resources career cluster. The Agriculture, Food and Natural Resources (AFNR) cluster focuses on the production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources. Jobs in this career cluster focus on working with agriculture, animals, agribusiness, food production, plants, natural resources and land. Students will learn about global food systems, the history of U.S. and world agriculture, fundamentals of animal science, historical and current environmental topics, and the wide variety of ways that humans interact with urban and agricultural insects in today's world.

Course Delivery Format

The program provides courses online and face-to-face on campus.

Requirements for Gateway to Agriculture Certificate: 12 Credits

- AFES 203 - Global Food Systems [SGR #3, HSDC] Credits: 3
- CMST 101 - Foundations of Communication (COM) [SGR #2, HSDC] Credits: 3
or ENGL 101 - Composition I (COM) [SGR #1, HSDC] Credits: 3

Select from the following

Select two of the following courses. Credits: 6

- AFES 263 - History of U.S. and World Agriculture [HSDC] Credits: 3
- AS 102 - Fundamentals of Animal Science [HSDC] Credits: 3
- NRM 110 - People and the Environment [HSDC] Credits: 3
- PS 105 - Insects and Society [HSDC] Credits: 3

Total Required Credits: 12

Gateway to Architecture and Construction Certificate

Program Coordinator/Contact

Pat Crawford, School Director
School of Design
Chicoine Architecture, Math and Engineering Building 372
605-688-4103

Program Information

The Gateway to Architecture and Construction Certificate provides a jump start for students with a career interest in architecture and construction. Students will explore careers in designing, planning, managing, building, and maintaining the built environment. Students will also take foundational courses in communication and mathematics which are critical skills in these fields. Related fields include architecture, landscape architecture, interior design, construction management, and construction technology.

Course Delivery Format

The program provides courses online and face-to-face on campus.

Requirements for Gateway to Architecture and Construction Certificate: 12 Credits

- ART 111 - Drawing I (COM) [SGR #4, HSDC] Credits: 3
or ARTH 100 - Art Appreciation (COM) [SGR #4, HSDC] Credits: 3
or ARTH 211 - History of World Art I (COM) [SGR #4, HSDC] Credits: 3
or GDES 101 - Computer Graphics [HSDC] Credits: 3
- DSGN 100 - Survey of the Built Environment Professions (COM) [HSDC] Credits: 3
or CEE 274 - Construction Engineering and Management [HSDC] Credits: 3
- ENGL 101 - Composition I (COM) [SGR #1, HSDC] Credits: 3
or CMST 101 - Foundations of Communication (COM) [SGR #2, HSDC] Credits: 3
- MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
or MATH 120 - Trigonometry (COM) [SGR #5, HSDC] Credits: 3

Total Required Credits: 12

Gateway to Business Certificate

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
605-688-4141

Program Information

The Gateway to Business Certificate provides a jump start for students with a career interest in business. Students will learn about the basics of business and communications while gaining hands-on experience.

Course Delivery Format

The program provides courses online and face-to-face on campus.

Requirements for Gateway to Business Certificate: 12 Credits

- BADM 101 - Survey of Business (COM) [HSDC] Credits: 3
or BADM/FIN 280 - Personal Finance (COM) [HSDC] Credits: 3
- CSC 105 - Introduction to Computers (COM) [HSDC] Credits: 3
or MIS/CSC 205 - Advanced Computer Applications (COM) [HSDC] Credits: 3
or CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] Credits: 3
or CMST 210 Interpersonal Communication for Professionals Credits: 3
- ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3
or ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3
- MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or higher

Total Required Credits: 12

Gateway to Digital Technology Certificate

Program Coordinator/Contact

Sungyong Jung, Department Head
McComish Department of Electrical Engineering and Computer Science
Daktronics Engineering Hall 214
605-688-4526

Program Information

The Gateway to Digital Technology Certificate provides a jump start for students with a career interest in digital technology, including disciplines like computer science, information systems, networking, artificial intelligence, cybersecurity, web development, health informatics, and data analytics. Through this program, students will explore programming, emerging technologies, and key ethical issues in tech, while building a strong foundation in math and problem-solving skills.

Course Delivery Format

The program provides courses online and face-to-face on campus.

Requirements for Gateway to Digital Technology Certificate: 12-14 Credits

- CSC 150 - Computer Science I (COM) [HSDC] Credits: 3
or CSC 115 - Test-Driven Software Development Credits: 3
or CSC 155 - Introduction to Computer Science Credits: 2
or CSC 155L - Introduction to Computer Science Lab Credits: 1
or CSC 170 - Programming for Engineers and Scientists Credits: 2
or CSC 170L - Programming for Engineers and Scientists Lab Credits: 1
or INFO 101 - Introduction to Informatics [HSDC] Credits: 3
- CENG 142 - Introduction to Digital Systems [HSDC] Credits: 2
and CENG 142L - Introduction to Digital Systems Lab [HSDC] Credits: 1
or CSC 101 - Digital Humanities [HSDC] Credits: 3
or CSC 134 - Introduction to Cyber [HSDC] Credits: 3
or CSC 147 - Survey of Artificial Intelligence [HSDC] Credits: 3
or CSC 163 - Hardware, Virtualization, and Data Communication [HSDC] Credits: 3
- MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or higher MATH course
- INFO/ PHIL 102 - Data Ethics (COM) [SGR #3, HSDC] Credits: 3
or PHIL 200 - Introduction to Logic (COM) [SGR #4, HSDC] Credits: 3
or PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] Credits: 3
or SOC 285 - Society and Technology [HSDC] Credits: 3

Total Required Credits: 12-14

Gateway to Engineering Certificate

Program Coordinator/Contact

Julian Kang, Department Head
Department of Construction and Concrete Industry Management
Solberg Hall 116
605-688-6417

Program Information

The Gateway to Engineering Certificate provides a jump start for students with a career interest in engineering. The certificate provides a foundation in general education courses relevant to the study of engineering while exploring the profession of engineering.

Course Delivery Format

The program provides courses online and face-to-face on campus.

Requirements for Gateway to Engineering Certificate: 9-11 Credits

- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
or PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3
and PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- GE 101 - Introduction to Engineering and Technical Professions [HSDC] Credits: 1
or GES 130L Intro to Engineering and Science Lab Credits: 2
or any other equivalent Introduction to Engineering course
- MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5
or MATH 116-116L Engineering Precalculus and Lab Credits: 4, 1 (SDSMT)
or MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4
or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4

Total Required Credits: 9-11

Gateway to Health Sciences Certificate

Program Coordinator/Contact

Heidi Mennenga, Associate Dean for Academic Programs
Department of Undergraduate Nursing
Wagner Hall 373
605-688-6924 or 1-888-216-9806 ext. 2

Program Information

The Gateway to Health Sciences Certificate provides a jump start for students with a career interest in health sciences. Students will explore the various roles of health professionals within a healthcare team and familiarize themselves with essential healthcare terminology. Additionally, students will complete math and social science courses that are prerequisites for many degrees in health and human services.

Course Delivery Format

The program provides courses online and face-to-face on campus.

Requirements for Gateway to Health Sciences Certificate: 12 Credits

- HSC 250 - Healthcare Terminology in the Clinical Setting (COM) [HSDC] Credits: 3
or BIOL/ NURS 285 Medical Terminology [HSDC] Credits: 3
or HIM 130 Basic Medical Terminology [HSDC] Credits: 3
- HSC 262 - Health Careers Exploration (COM) [HSDC] Credits: 3
or HSC 110 The Interprofessional Health Team [HSDC] Credits: 3
or HIM 150 Introduction to Digital Health Informatics & Information Management [HSDC] Credits: 3
- MATH 103 - Mathematical Reasoning (COM) [SGR #5, HSDC] Credits: 3 or higher MATH course
- PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] Credits: 3
or PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
or HDF5 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3

Total Required Credits: 12

Gateway to STEM Certificate

Program Coordinator/Contact

Brian Logue, Department Head
Melody Jewell, Coordinator of Undergraduate Programs
Department of Chemistry, Biochemistry and Physics
Avera Health and Science Center 247, Box 2202
605-688-5151

Program Information

The Gateway to STEM Certificate provides a jump start for students with a career interest in science, technology, engineering, and mathematics (STEM) fields. The certificate will serve to provide knowledge about the variety of STEM degree programs and allow students to explore courses in science, technology, and mathematics.

Course Delivery Format

The program provides courses online and face-to-face on campus.

Requirements for Gateway to STEM Certificate: 10-13 Credits

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
or PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3
and PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
or PHYS 211 - University Physics I (COM) [SGR #6, HSDC] Credits: 4
and PHYS 211L - University Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or higher MATH course
- CSC 150 - Computer Science I (COM) [HSDC] Credits: 3
or CSC 115 Test-Driven Software Development [HSDC] Credits: 3
or CSC 170 Programming for Engineers and Scientists [HSDC] Credits: 2
and CSC 170L Programming for Engineers and Scientists Lab [HSDC] Credits: 1
or select a second science or math course from the lists above Credits: 3-5

Total Required Credits: 10-13

Gateway to Teacher Education Certificate

Program Coordinator/Contact

Patrick Hales, Associate Professor, Assistant Director of K-12 Teacher Education
School of Education, Counseling and Human Development
Wenona Hall 114
605-688-5039

Program Information

The Gateway to Teacher Education Certificate provides a jump start for students with a career interest in PK-12 teacher education and provides knowledge about teacher education degree programs within South Dakota Regental institutions. Students will learn about teaching and the teaching profession while gaining hands-on experience.

The intended audience is high school students considering pursuing majors or degree programs in elementary, secondary, and special education. The certificate does not lead to licensure or certification.

Course Delivery Format

The program provides courses online and face-to-face on campus.

Requirements for Gateway to Teacher Education Certificate: 12 Credits

- EDFN 102 - Introduction to Education (COM) Credits: 3
- SPED 100 - Introduction to Persons with Exceptionalities (COM) Credits: 3

Select from the following

Select one of the following courses. Credits: 3

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- HIST 151 - United States History I (COM) [SGR #3, HSDC] [CIV] Credits: 3
- HIST 152 - United States History II (COM) [SGR #3, HSDC] [CIV] Credits: 3

Select from the following

Select one of the following courses. Credits: 3

- CMST 101 - Foundations of Communication (COM) [SGR #2, HSDC] Credits: 3
- ENGL 101 - Composition I (COM) [SGR #1, HSDC] 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.

Course Delivery Format

The program includes lecture, discussion, laboratory research, fieldwork, and travel, with limited online coursework.

Academic Requirements

Students must earn at least a "C" in each course used to meet the certificate requirements.

Requirements for Geographic Information Sciences Certificate: 12 Credits

- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- GEOG 383 - Cartography Credits: 2
and GEOG 383L - Cartography Lab Credits: 1
or GEOG 483 - UAS Remote Sensing Credits: 2
and GEOG 483L - UAS Remote Sensing Lab Credits: 1

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 - GIS: Data Creation and Integration (COM) Credits: 2
- GEOG 473L - GIS: Data Creation and Integration Lab (COM) Credits: 1
- GEOG 474 - GIS: Vector and Raster Modeling Credits: 2
- GEOG 474L - GIS: Vector and Raster Modeling Lab Credits: 1
- GEOG 475 - GIS Applications Credits: 2
- GEOG 475L - GIS Applications Lab Credits: 1

Remote Sensing/Cartography Technical Electives

Select two from the following. Credits: 6

- GEOG 280 - Introduction to Remote Sensing Credits: 3
- GEOG 480 - Satellite Remote Sensing Credits: 2
- GEOG 480L - Satellite Remote Sensing Lab Credits: 1
- GEOG 485 - Advanced Satellite Remote Sensing Credits: 2
- GEOG 485L - Advanced Satellite Remote Sensing Lab Credits: 1

Total Required Credits: 12

Global Agricultural Leadership Certificate

Program Coordinator/Contact

Rosie Nold, Assistant Dean and Director of the Institute of Global Agricultural Leadership
College of Agriculture, Food and Environmental Sciences
Berg Agricultural Hall 147
605-688-4893

Program Information

The Global Agricultural Leadership Certificate will provide students with knowledge and skills in agriculture, leadership, and global awareness to effect change in worldwide food, fiber, and natural resources systems. Agriculture is an industry that is important in every country. Future agricultural leaders need to have knowledge and skills to work in this varied, interconnected industry. While students receive technical content knowledge across a variety of majors in the College of Agriculture, Food and Environmental Sciences, they can benefit from a program that offers courses including agricultural leadership, vitality, global perception, and current issues in agriculture. Graduates will be more knowledgeable about global agricultural leadership and practices and be prepared to enter a wide variety of careers in the food, fiber, and natural resource system.

Course Delivery Format

The program provides courses online and face-to-face on campus.

Requirements for Global Agricultural Leadership Certificate: 12 Credits

- AFES 203 - Global Food Systems [SGR #3, HSDC] Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3

Select from the following

Select two courses from the following list. Credits: 6

- AFES 482 - International Agricultural Travel Experience Credits: 1-4
- AS 389 - Current Issues in Animal Science Credits: 3
- GEOG 111 - Sustainable Society (COM) [SGR #3, HSDC] Credits: 3
- GLST 201 - Introduction to Global Studies [SGR #3, HSDC] Credits: 3
- GLST 280 - Developing Intercultural Competence Credits: 3

- LDR 310 - Leadership in Context (COM) Credits: 3
- NRM 110 - People and the Environment [HSDC] Credits: 3

Total Required Credits: 12

Graphic Design Certificate

Program Coordinator/Contact

Marisa TenBrink, Assistant Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

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.

Requirements for Graphic Design Certificate: 12 Credits

- GDES 101 - Computer Graphics [HSDC] 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 and Animal Products Evaluation Certificate

Program Coordinator/Contact

John Killefer, Professor
Department of Animal Science
Animal Science Complex 101
605-688-5165

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.

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 - Introduction to Animal Science Credits: 3
- AS 101L - Introduction to Animal Science Lab Credits: 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 - Livestock Evaluation and Marketing Credits: 2
- AS 285L - Livestock Evaluation and Marketing Lab Credits: 1
- 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 - Introduction to Meat Science Credits: 2

- AS 241L - Introduction to Meat Science Lab Credits: 1
- 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

Lobbying and Government Advocacy Certificate

Program Coordinator/Contact

Lisa Hager, Associate Professor of Political Science
School of American and Global Studies
Lincoln Hall 325, Box 2212
605-688-5343

Program Information

The Lobbying and Government Advocacy Certificate provides graduates with the knowledge and skills needed to effectively communicate with government to influence legislative policymaking, executive branch rulemaking, and judicial decisions at the state and federal levels on a variety of issues important to business, industry, and within their chosen profession: for example, nursing, engineering, education, business, and agriculture. Graduates will be equipped to lobby government on behalf of their employer, should they be asked within their profession to do so, or as a professional lobbyist.

Course Delivery Format

The program provides courses face-to-face on campus and online.

Requirements for Lobbying and Government Advocacy Certificate: 12-13 Credits

- CMST 215 - Public Speaking (COM) [SGR #2, HSDC] Credits: 3
- PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] Credits: 3
or BIOL /PHIL 383 - Bioethics (COM) Credits: 4
- POLS 210 - State and Local Government (COM) [SGR #3, HSDC] [CIV] Credits: 3
or POLS 331 - US Congress (COM) Credits: 3
- POLS 434 - Interest Groups and Lobbying (COM) Credits: 3

Total Required Credits: 12-13

New Product and Venture Development Certificate

Program Coordinator/Contact

Barb Heller, Entrepreneurship Coordinator
Ness School of Management and Economics
Harding Hall 139
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.

Course Delivery Format

Course content is delivered on campus and online.

Requirements for New Product and Venture Development Certificate: 9 Credits

- ENTR 236 - Fundamentals of Innovation and Creativity Credits: 3
- ENTR 238 - Product Development and Market Discovery Credits: 3
- ENTR 337 - Entrepreneurship Development Credits: 3

Total Required Credits: 9

Painting Certificate

Program Coordinator/Contact

Diana Behl, Associate Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

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.

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

Pharmacology Certificate

Program Contact/Coordinator

Dan Hansen, Laughrey Endowed Dean
Brad Laible, 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
605-688-6197 or 605-688-5591

Program Information

The Pharmacology Certificate enables students to explore fundamental concepts in pharmacology, which is the study of how chemical agents, including drugs, affect biological systems. A basic understanding of pharmacology concepts prepares students for further education and careers in medical/health science professions.

Academic Requirements

Students in the Pharmaceutical Sciences (B.S.) program are not eligible for this minor.

Requirements for Pharmacology Certificate: 10 Credits

- BIOL 325 - Physiology (COM) Credits: 3
and BIOL 325L - Physiology Lab (COM) Credits: 1
or BIOL 326 - Biomedical Physiology Credits: 3
and BIOL 326L - Biomedical Physiology Lab Credits: 1
- PHA 352 - Pathophysiology, Pharmacology and Toxicology I Credits: 3
- PHA 353 - Pathophysiology, Pharmacology and Toxicology II Credits: 3

Total Required Credits: 10

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 blood tests are used to diagnose illness, evaluate effectiveness of medications, and determine whether a patient is receiving proper nutrition.

Course Delivery Format

The certificate in phlebotomy would provide students with coursework and clinical experience in phlebotomy. The didactic and laboratory courses are offered on campus 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.

Academic Requirements

Students must earn at least a "C" in each course used to meet the certificate requirements.

Requirements for Phlebotomy Certificate: 9 Credits

- MLS 201 - Understanding Medical Laboratory Science Credits: 2
- MLS 412 - Laboratory Safety and Phlebotomy Credits: 3
- MLS 412L - Laboratory Safety and Phlebotomy Lab Credits: 1
- MLS 489 - Phlebotomy Clinical Experience Credits: 1-3 (3 credits required)

Total Required Credits: 9

Pre-Construction Planning Certificate

Program Coordinator/Contact

Julian Kang, Department Head
Department of Construction and Concrete Industry 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, 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.

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, Associate Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

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.

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

Production and Service of Wine, Beer and Spirits Certificate

Program Coordinator/Contact

Kunsoo Park, Associate Professor
School of Health and Human Sciences
Wagner Hall 425, Box 2275A
605-688-5223

Program Information

The Production and Service of Wine, Beer and Spirits Certificate provides students with the specific knowledge and skilled techniques needed for fermented beverage production. Although each of the beverages is fermented, they each have a technique that is specific to the beverage to produce the specific taste, color, odor, and alcohol content. Learn sanitary measures required of fermented products, development of the specific types of products, and type and quality of ingredients to produce a product with specific taste and alcohol content that is acceptable to consumers. Gain knowledge of the raw ingredients needed to produce each fermented beverage and the specific qualities of the raw ingredients. The certificate will also provide graduates with the knowledge of how to market and manage the sales of alcoholic beverages.

Course Delivery Format

Practical learning experiences complement traditional academic settings.

Academic Requirements

Students must be 21 years of age or older to complete HMGT 480 - Introduction to Wine, Beer, and Spirits, HMGT 480L - Introduction to Wine, Beer, and Spirits Lab, NUTR 426 - Production of Wine Beer Spirits, and NUTR 426L - Production of Wine Beer Spirits Lab.

Requirements for Production and Service of Wine, Beer and Spirits Certificate: 10 Credits

- HMGT 251 - Foodservice Sanitation Credits: 1
- HMGT 480 - Introduction to Wine, Beer, and Spirits Credits: 2
- HMGT 480L - Introduction to Wine, Beer, and Spirits Lab Credits: 1
- HMGT 482 - Hospitality Marketing Credits: 3
- NUTR 426 - Production of Wine Beer Spirits Credits: 2
- NUTR 426L - Production of Wine Beer Spirits Lab Credits: 1

Total Required Credits: 10

Public Service Certificate

Program Coordinator/Contact

Christi Garst-Santos, Director and Associate Professor of Spanish
School of American and Global Studies
Lincoln Hall 132, Box 2212
605-688-5102

Program Information

The challenges facing societies today cannot be solved by a single government, nonprofit, or corporation. Problems such as stewardship of resources, poverty, sustainability, or access to education are complex, interconnected, and subject to real world constraints when it comes to finding solutions and mitigating their negative consequences. The future success of communities in South Dakota is predicated upon engaged yet pragmatic citizens who know how to work toward the greater public good across various constituencies and sectors.

The undergraduate certificate in Public Service will create a corps of passionate leaders through academic excellence, civic engagement, and ethical stewardship devoted to advancing the overall public good through public service. Unlike government advocacy that serves the defined interests of business, industry, or interest groups, the aim of the Public Service Certificate is to educate the next generation of public servants, equipping them with the leadership skills and experiential learning opportunities needed to solve today's complex challenges. Students will study their chosen major, develop 21st century leadership skills such as intercultural competency and professional ethics, and complete an internship that tackles real-world challenges in the public, private, or nonprofit sector.

The Public Service Certificate partly serves as the curriculum portion of the Mike Huether Public Service Academy, housed within the School of American and Global Studies. However, the certificate is a value-added credential that is open to all majors. It may be of particular interest to existing majors seeking preparation in fields as varied as education, ethics, languages and cultural competence, health care, infrastructure, military, politics, public policy, or social planning. Completion of this certificate is a stand-out credential for students applying for employment in public service professions (e.g., police officers, firefighters, judges, public health workers, city engineers, urban planners, economists, bank

examiners, housing agency administrators, homeless shelter directors and other nonprofit management positions) or when running for public office.

Course Delivery Format

The program provides courses face-to-face on campus and online.

Academic Requirements

Students must earn a "C" or better in each course used to meet the requirements for the certificate.

Requirements for Public Service Certificate: 12 Credits

- GLST 280 - Developing Intercultural Competence Credits: 3
- PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] Credits: 3 or PHIL 320 - Professional Ethics (COM) Credits: 3
- POLS 210 - State and Local Government (COM) [SGR #3, HSDC] [CIV] Credits: 3 or POLS 253 - Current World Issues [SGR #3, HSDC] Credits: 3
- POLS 320 - Public Administration (COM) Credits: 3

Total Required Credits: 12

Rural Health Certificate

Program Coordinator/Contact

Heidi Mennenga, Associate Dean for Academic Programs
Department of Undergraduate Nursing
Wagner Hall 255
605-688-6924 or 1-888-216-9806 ext. 2

Program Information

The Rural Health Certificate will prepare students to address the unique healthcare needs of rural and underserved communities by providing specialized knowledge and skills. The purpose is to equip students with expertise in rural health disparities, healthcare delivery in resource-limited settings, and innovative solutions such as telehealth, positioning them to work effectively in these environments. The certificate is recommended for undergraduate students in nursing or other health-related degree programs, however, is open to students from any major.

Course Delivery Format

The program provides courses online.

Requirements for Rural Health Certificate: 11 Credits

- HSC 212 - Contemporary Health Problems Credits: 2
- HSC 402 - Rural Healthcare Matters Credits: 3
- HSC 410 - Current Rural Healthcare Trends Credits: 3
- HSC 452 - Interprofessional Issues in Health Care Credits: 3

Total Required Credits: 11

Sculpture Certificate

Program Coordinator/Contact

Diana Behl, Associate Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

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.

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

Sarah Kim, IDEA Campus Coordinator
Office of Continuing and Distance Education
West Hall 121
605-688-6988

Bob Thaler, Distinguished Professor and Farm Credit Services of American
Endowed Chair in Swine Production
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.

Course Delivery Format

The fully-online programs of the Innovative Digital Education Alliance (IDEA) provide flexibility, enabling students to balance career advancement with professional, social and financial commitments. 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

Uncrewed 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 Uncrewed Aircraft Systems Certificate 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 Uncrewed 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.

Course Delivery Format

The program includes lecture, discussion, laboratory research, fieldwork, and with limited online coursework.

Requirements for Uncrewed Aircraft Systems Certificate: 12 Credits

- AVIA 200 - Aviation Safety Credits: 3
- GEOG 270 - Introduction to Small Uncrewed Aircraft Systems Credits: 3
- GEOG 483 - UAS Remote Sensing Credits: 2
- GEOG 483L - UAS Remote Sensing Lab Credits: 1

Select one of the following

Credits: 3

- AST 426 - Technology Applications for Precision Agriculture Credits: 2
- AST 426L - Technology Applications for Precision Agriculture Lab Credits: 1
- CM 400 - Risk Management and Construction Safety Credits: 3
- GEOG 280 - Introduction to Remote Sensing Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- GEOG 387 - UAS Photography and Videography Credits: 3
- GEOG 386 - UAS Applications for Emergency Management Credits: 3
- GEOG 473 - GIS: Data Creation and Integration (COM) Credits: 2
- GEOG 473L - GIS: Data Creation and Integration Lab (COM) Credits: 1

Total Required Credits: 12

Wizipan Leadership and Sustainability Certificate

Program Coordinator/Contact

Joshua Rudnik, Assistant Professor
School of American and Global Studies
Lincoln Hall 132
605-688-5101

Program Information

The Wizipan Leadership and Sustainability Certificate is based on the Lakota term Wachante Hecha Wizipan, The Heart of Everything that Is. The certificate program uses Indigenous knowledge systems, language, culture, and kinship to land as its primary learning tools to explore the connection between Indigenous land-based knowledge and sustainability. The required AIS 100 - Introduction to American Indian and Indigenous Studies course provides students with an educational foundation in Indigenous cultures and perspectives. The leadership offerings and electives allow students to explore sustainability from multiple perspectives including environmental, community, health, culture, and language. Students leave the program equipped with the knowledge and skillsets needed to understand the potential of their leadership roles within their 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).

Course Delivery Format

The program follows a thematic structure and will be delivered in an innovative, interdisciplinary approach rooted in Indigenous knowledge systems.

Requirements for Wizipan Leadership and Sustainability Certificate: 12-13 Credits

- AIS 100 - Introduction to American Indian and Indigenous Studies Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3
or GLST 280 - Developing Intercultural Competence Credits: 3

Select from the following

Select two courses (6-7 credits) from the following list. Credits: 6-7

- AFES 203 - Global Food Systems [SGR #3, HSDC] Credits: 3
- AIS/ LAKL 101 - Introductory Lakota I (COM) [SGR #4, HSDC] Credits: 4
- AIS 430 - Indigenous Relationships to the Environment Credits: 3
- HIST 409 - Environmental History of the U.S. (COM) Credits: 3
- HSC 203 - Culturally-Based Indigenous Health Credits: 3
- NRM 110 - People and the Environment [HSDC] Credits: 3
- NRM 221 - Introduction to Conservation Planning and Management Credits: 3

Total Required Credits: 12-13

Workplace Intercultural Competence Certificate

Program Coordinator/Contact

José (Pepe) Álvarez, Associate Professor of Spanish
School of American and Global Studies
Lincoln Hall 321, Box 2212
605-688-4273

Program Information

The Workplace Intercultural Competence Certificate equips graduates with the knowledge and skills necessary to manage workplaces in a range of industries, including business, construction, and agriculture. Students develop a basic understanding of the challenges associated with second-language acquisition and cross-cultural communication, while refining the skills needed to work effectively in environments with varied cultural backgrounds. They are also introduced to basic theories and research on communication between different cultural groups.

Course Delivery Format

Program courses are taught on campus, online, and 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, HSDC] Credits: 4 or GER 101 - Introductory German I (COM) [SGR #4, HSDC] Credits: 4 or LAKL 101 - Introductory Lakota I (COM) [SGR #4, HSDC] Credits: 4 or SPAN 101 - Introductory Spanish I (COM) [SGR #4, HSDC] Credits: 4
- FREN 102 - Introductory French II (COM) [SGR #4, HSDC] Credits: 4 or GER 102 - Introductory German II (COM) [SGR #4, HSDC] Credits: 4 or LAKL 102 - Introductory Lakota II (COM) [SGR #4, HSDC] Credits: 4 or SPAN 102 - Introductory Spanish II (COM) [SGR #4, HSDC] 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
- AGE 371 - Agricultural Business Management Credits: 3
- AS 445 - Value-Added Meat Products Credits: 2
- AS 445L - Value-Added Meat Products Lab Credits: 1
- AS 474 - Cow/Calf Management Credits: 2
- AS 474L - Cow/Calf Management Lab Credits: 1
- AS 475 - Feedlot Operations and Management Credits: 2
- AS 475L - Feedlot Operations and Management Lab Credits: 1
- AS 478 - Swine Production Credits: 2
- AS 478L - Swine Production Lab Credits: 1
- BADM 101 - Survey of Business (COM) [HSDC] Credits: 3
- CM 400 - Risk Management and Construction Safety Credits: 3
- DS 421 - Dairy Plant Management Credits: 3
- DS 421L - Dairy Plant Management Lab Credits: 1
- DS 481 - Dairy Farm Operations II Credits: 3
- DS 481L - Dairy Farm Operations II Lab Credits: 1
- ECE 325 - Inclusion and the Diverse Learner Credits: 3
- HMG 171 - Introduction to Hospitality, Tourism, and Event Industry Credits: 3
- HMG 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 - Media Law (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- OM 462 - Quality Management Credits: 3
- OM 463 - Supply Chain Management Credits: 3

Total Required Credits: 14-15

Certification Preparation

Athletic Coaching Certification

Program Coordinator/Contact

Roman Waldera, Instructor, Coordinator
School of Health and Human 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 Human 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 - Prevention and Care of Athletic Injuries (COM) Credits: 2 and EXS 354L - Prevention and Care of Athletic Injuries Lab (COM) Credits: 1
- HLTH 250 - Pre-Professional First Aid and CPR (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, Associate Professor, Assistant Director of K-12 Teacher Education
School of Education, Counseling and Human Development
Wenona Hall 114
605-688-5039

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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure Requirements for South Dakota

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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 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.

Teacher Education Admission and Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, PE, or SPED prefixes).

- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, PE, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, PE, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, PE, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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
- SEED 456 - Capstone/Action Research Credits: 1
- SPED 100 - Introduction to Persons with Exceptionalities (COM) Credits: 3
- Content Methods (Varies by Content Area) Credits: 3-4

Secondary Teacher Education - Certification Only

Program Coordinator/Contact

Patrick Hales, Associate Professor, Assistant Director of K-12 Teacher Education
School of Education, Counseling and Human Development
Wenona Hall 114
605-688-5039

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 includes academic study, professional preparation, and field experience, equipping students with pedagogical and content-specific knowledge, preparing them to work with a variety of learner groups.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure for South Dakota

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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 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.

Teacher Education Program Admission and Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, PE, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, PE, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, PE, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, PE, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Requirements for the Teacher Education – Certification Only Program

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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
- SEED 456 - Capstone/Action Research Credits: 1
- SPED 100 - Introduction to Persons with Exceptionalities (COM) Credits: 3
- 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

Karen Sanguinet, Klingbeil Endowed Department Head
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.

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 - Soil Geography and Land Use Interpretation Credits: 2
- PRAG 410L - Soil Geography and Land Use Interpretation Lab Credits: 1
- PRAG 423 - Soil Fertility and Plant Nutrient Management Credits: 3
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- PS 412 - Environmental Soil Chemistry Credits: 3
- PS 421 - Soil Microbiology Credits: 2
- PS 421L - Soil Microbiology Lab Credits: 1
- PS 462 - Environmental Soil Management Credits: 2
- PS 462L - Environmental Soil Management Lab Credits: 1
- Soils Elective Credits: 3

Total Required Credits: 21

Distinctions

Honors College Distinction

Program Coordinator/Contact

Noah Roerig, Honors Advisor
Van D. and Barbara B. Fishback Honors College
Honors Hall 119, SHON Box 2705A
605-688-5186

Program Information

The mission of the 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.

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.

Program Admission and Requirements

Prospective first-time undergraduate students are automatically eligible to take Honors College courses if they have earned a 27+ on their ACT, a 1280 or higher SAT score, or earned a cumulative high school GPA of 3.7 or higher. Current SDSU or transfer students would be automatically eligible to join the Honors College with a 3.2 or higher college GPA. Incoming and current students who do not meet automatic eligibility criteria but wish to be part of the Honors College can apply for admission through the Honors College website.

When a student decides 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 must receive a grade of C or better in a course in order for a course to count toward the student's Honors graduation requirements.

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 110) 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.

Students are in good standing if they are meeting the Honors College progression standards. Students who fail to meet progression standards for two consecutive semesters will no longer be in good standing within the Honors College. These students will be required to meet with the Honors advisor during the semester they lose good standing and demonstrate progress toward meeting the Honors progression standards. If students fail to complete these steps, their enrollment in the Honors College will be ended. Students who are unenrolled from the Honors College voluntarily or because of the good standing policy are always welcome to reapply in the future if they are meeting the eligibility criteria or through the application process.

Requirements for Honors College Distinction: 24 Credits

Students can earn Honors College distinction by completing the required coursework below and earning a 3.5 cumulative grade point average upon graduation. The Applied Thinking and Innovation Minor can also serve as a pathway for students to earn Honors College distinction. Students who complete the minor would need to complete an additional 6 credits of Honors coursework from any of the options below and earn a 3.5 cumulative grade point average upon graduation in order to graduate with Honors College distinction.

- HON 383 - Honors Colloquium Credits: 1-3 (Minimum of 3 credits required) or HON 482 - Travel Studies Credits: 1-3 (Minimum of 3 credits required) Honors Colloquium courses are exciting, multidisciplinary courses 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. Travel study courses are connected to a travel or study abroad experience. These courses allow students to learn more about another part of the world and then experience the things they learn about first-hand through traveling to that location.
- HON 498 - Research (COM) Credits: 1-12 (Minimum of 2 credits required) Students conduct original research, creative work, or scholarly activity under the direction of a faculty mentor to fulfill this requirement. The project is accompanied by an academic paper and a presentation in a public venue. Students can enroll in HON 498 or approved credits through another department.
- Honors Designated Coursework Credits: 0-19 Students can enroll in Honors sections of courses needed for university and major/minor requirements. These Honors sections feature smaller classes, outstanding faculty, and more in-depth discussion and activities.
- Honors Contracted Coursework Credits: 0-19 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.

- **Experiential Learning Credits: 0-6**
Students can earn Honors credit for the following experiences as long as the student is also enrolled in academic credit for the experience. A maximum of 3 credits will be applied toward Honors graduation requirements for a single experience. Students can complete the same type of experience twice (for up to 3 credits each).
- Graduate-level coursework as an undergraduate student
- Non-Honors study abroad/travel study*
- Internship*
- Non-Honors teaching assistant/research assistant credit*
- Student teaching/practicum*
*Requires additional reflection incorporating the Honors College values
- **Honors Enrichment Credits: 0-6**
Students can earn Honors credit through several Honors leadership experiences and enrichment programs. Students must be enrolled in academic credit (HON 495 or similar) and complete the necessary reflection incorporating the Honors College values in order to earn credit toward their Honors graduation requirements. Opportunities for Honors enrichment credit include:
- Honors program participation (i.e. First Year Fellowship)*
- Honors organization leadership (HCSO officer, peer mentor program coordination, etc.)*
- Honors undergraduate teaching assistant (TA)*
- Honors conference attendance & presentation*
*Requires additional reflection incorporating the Honors College values

Total Required Credits: 24

Majors

Accounting (B.A./B.S.)

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
605-688-4141

Program Information

The major in Accounting provides students with advanced training in accounting, including managerial, financial, cost, and income tax accounting. With a major in accounting, graduates will find careers in a variety of fields. While some accounting graduates are working as Certified Public Accountants (CPAs), some are in related fields such as auditors, financial analysts, business analysts, credit analysts, investment analysts, financial planners, bankers, loan officers, corporate finance support positions, corporate audit functions, tax examiners, tax managers, insurance underwriters, and entrepreneurs.

Accreditation

The Ness School of Management and Economics is accredited by the Association to Advance Collegiate Schools of Business International (AACSB).

Course Delivery Format

The program offers courses on campus and online.

Academic Requirements

Students must earn a grade of "C" or better in BADM 485 - Strategic Management, 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 or more majors offered through the Ness School of Management and Economics, each major needs to have at least 15 credits that are distinct from the other major(s).

Requirements for Accounting Major: 120 Credits

Bachelor of Arts
Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6

- Goal #5 Mathematics: MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

College of Arts, Humanities and Social Sciences Requirements

- Capstone course in the major discipline
- Upper division coursework Credits: 33

Bachelor of Arts Requirements: 6+

- Modern Foreign Language Including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

*The B.A. and B.S. in Accounting is excluded from the college requirement of one declared minor outside of the major discipline OR a second major OR a teaching specialization.

Major Requirements

- 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 360 - Accounting Systems (COM) Credits: 3
- ACCT 430 - Income Tax Accounting (COM) Credits: 3
- ACCT 450 - Auditing (COM) Credits: 3
- BADM 101 - Survey of Business (COM) [HSDC] Credits: 3
- BADM 485 - Strategic Management Credits: 3 (Capstone)
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- BLAW 351 - Business Law (COM) Credits: 3
- CSC/ MGMT 325 - Management Information Systems (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, HSDC] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] 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 360 - Organization and Management (COM) Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3

Supporting Coursework

- ENGL 379 - Technical Communication (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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* 28-29 Credit Hours

College of Arts, Humanities and Social Sciences Requirements** 6+ Credit Hours

Major Requirements 68 Credit Hours

Supporting Coursework	6 Credit Hours
Electives***	11-12 Credit Hours
Bachelor of Science	
System General Education Requirements*	28-29 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	68 Credit Hours
Supporting Coursework	6 Credit Hours
Electives***	13-14 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Advertising (B.A./B.S.)

Program Coordinator/Contact

Rebecca A. Kuehl, Associate Director
Erica Quam, Professional Academic Advisor
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.

Accreditation

The advertising major is accredited by the national accrediting body of journalism and mass communication, the Accrediting Council on Education in Journalism and Mass Communications (ACEJMC).

Course Delivery Format

The program offers coursework in classroom, studio, online and field-based settings.

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.

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.

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: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one

department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and 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 - Advertising Copy and Design (COM) Credits: 3
- ADV 372 - Advertising Media Strategies Credits: 3
- ADV 442 - Integrated Marketing Communication and Campaigns (COM) Credits: 3 (Capstone)
- MCOM 119 - First-Year Seminar in Communication and Journalism Credits: 2
- MCOM 210 - Basic Media Writing (COM) Credits: 3
- MCOM 220 - Introduction to Digital Media (COM) Credits: 3
- MCOM 270 - Data Analysis in Communication Credits: 3
- MCOM 331 - Video Production (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 - Mass Media in Society Credits: 3 or ADV 476 - Global and Multicultural Advertising Credits: 3
- MCOM 430 - Media Law (COM) Credits: 3

Select from the following

Select from the following. Credits: 9

- ADV 314 - Digital Promotions Credits: 3
- ADV 411 - Media Analytics 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 - Basic Photography (COM) 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

Notes

- ADV 442 and PUBR 442 are equivalent courses in this major. Students must only take one of these courses in their program of study.
- ADV 472 and PUBR 472 are equivalent courses in this major. Students must only take one of these courses in their program of study.

Summary of Program Requirements

Bachelor of Arts

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	6+ Credit Hours
Major Requirements	44 Credit Hours
Electives***	40 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	44 Credit Hours
Electives***	42 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Agricultural and Biosystems Engineering (B.S.)

Program Coordinator/Contact

Kasiviswanathan Muthukumarappan, Maynard A. Klingbeil Endowed Department Head and Distinguished Professor

Department of Agricultural and Biosystems Engineering
Raven Precision Agriculture Center 136
605-688-5666

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.

Accreditation

The Agricultural and Biosystems Engineering (BS) program is accredited by the Engineering Accreditation Commission of ABET, under the General Criteria and Program Criteria for Agricultural and Similarly Named Engineering Programs and Biological Engineering and Similarly Named Engineering Programs.

Certification and Licensure

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 277 - Technical Writing in Engineering [SGR #1, HSDC] Credits: 3¹ and SGR #1 Elective Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences: PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3, PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1, PHYS 209 - Fundamentals of Physics II (COM) [SGR #6, HSDC] Credits: 3, and PHYS 209L - Fundamentals of Physics II Lab (COM) [SGR #6, HSDC] Credits: 1

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 234 - Digital Tools for Agricultural and Biosystems Engineering Credits: 3
- ABE 314 - Ag Power and Machines Credits: 3³

- ABE 314L - Ag Power and Machines Lab Credits: 1
- ABE 324 - Ag Structures and Indoor Environment Credits: 3³
- ABE 324L - Ag Structures and Indoor Environment Lab Credits: 1
- ABE 343 - Engineering Properties of Biological Materials Credits: 2
- ABE 343L - Engineering Properties of Biological Materials Lab Credits: 1
- ABE 411 - Design Project III Credits: 2
- ABE 422 - Design Project IV Credits: 2
- ABE 434 - Natural Resources Engineering Credits: 3³
- ABE 434L - Natural Resources Engineering Lab Credits: 1
- ABE 444 - Unit Operations of Biological Materials Processing Credits: 3³
- ABE 444L - Unit Operations of Biological Materials Processing Lab Credits: 1
- ABE 463 - Instrumentation for Agricultural and Biological Systems Credits: 2
- ABE 463L - Instrumentation for Agricultural and Biological Systems Lab Credits: 1
- 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 - Research (COM) Credits: 1-3 (2 credits required)
- BIOL 103 - Biology Survey II (COM) [SGR #6, HSDC] Credits: 2
- BIOL 103L - Biology Survey II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4
- CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- EE 300 - Basic Electrical Engineering I Credits: 2
- EE 300L - Basic Electrical Engineering I Lab Credits: 1
- 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 [HSDC] Credits: 1
- GE 121 - Engineering Design Graphics I Credits: 1
- GE 123 - Computer Aided Drawing Credits: 1
- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5, HSDC] 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, HSDC] Credits: 3 or STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
- ME 314 - Thermodynamics Credits: 3

Technical Electives

The electives for each student must be approved by the advisor and will include 16 credit hours of technical electives, at least 6 credits from 300 or above level courses in the College of Engineering. Credits: 16

- ABE 491 - Independent Study (COM) Credits: 1-3
- ABE 492 - 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 150 - Computer Science I (COM) [HSDC] 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: 2²
- GE 210 - Geometric Dimensioning and Tolerancing Credits: 2
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3
- MNET 220 - Parametric Modeling and Design Credits: 2
- MNET 220L - Parametric Modeling and Design Lab Credits: 1
- PRAG 340 - Climate Risk Management with Precision Agriculture Credits: 3
- PRAG 410 - Soil Geography and Land Use Interpretation Credits: 2

- PRAG 410L - Soil Geography and Land Use Interpretation Lab Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Food and Biomaterials Engineering Emphasis

- AS 441 - Advanced Meat Science Credits: 3
- AS 445 - Value-Added Meat Products Credits: 2
- AS 445L - Value-Added Meat Products Lab Credits: 1
- CEE 323 - Water Supply and Wastewater Engineering Credits: 3
- CEE 424 - Industrial Waste Treatment Credits: 3
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- DS 460 - Dairy Product Processing I Credits: 4
- DS 460L - Dairy Product Processing I Lab Credits: 1
- DS 461 - Dairy Product Processing II Credits: 4
- DS 461L - Dairy Product Processing II Lab Credits: 1
- DS 421 - Dairy Plant Management Credits: 3
- DS 421L - Dairy Plant Management Lab Credits: 1
- FS 351 - Principles of Food Processing Credits: 2
- FS 351L - Principles of Food Processing Lab Credits: 1
- FS 400 - Food Chemistry and Analysis Credits: 3
- FS 400L - Food Chemistry and Analysis Lab Credits: 2
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
- MICR 311 - Food Microbiology Credits: 2
- MICR 311L - Food Microbiology Lab Credits: 2
- NUTR 341 - Food Science for Nutrition and Dietetics Credits: 3
- NUTR 341L - Food Science for Nutrition and Dietetics Lab Credits: 1

Power and Machinery Emphasis

- ABE 350 - Hydraulic Systems Credits: 2
- ABE 350L - Hydraulic and Pneumatic Systems Lab Credits: 1
- ME 321 - Fundamentals of Machine Design Credits: 3
- ME 323 - Vibrations Credits: 3
- ME 341 - Metallurgy Credits: 3
- ME 362 - Industrial Engineering Credits: 3
- ME 412 - Internal Combustion Engines Credits: 3
- ME 415 - Heat Transfer Credits: 3
- ME 421 - Design of Machine Elements Credits: 3
- PS 462 - Environmental Soil Management Credits: 2
- PS 462L - Environmental Soil Management Lab Credits: 1

Structures and Environment Emphasis

- CEE 346 - Geotechnical Engineering (COM) Credits: 3
- CEE 346L - Geotechnical Engineering Lab (COM) Credits: 1
- 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: 3²
- ME 410 - Principles of HVAC Engineering Credits: 3
- ME 415 - Heat Transfer Credits: 3
- ME 439 - HVAC System Design Credits: 3
- ME 451 - Automatic Controls Credits: 3
- MNET 220 - Parametric Modeling and Design Credits: 2
- MNET 220L - Parametric Modeling and Design Lab Credits: 1

Water and Natural Resources Engineering Emphasis

- AST 463 - Agricultural Waste Management Credits: 3
- CEE 106 - Elementary Surveying Credits: 3
- CEE 106L - Elementary Surveying Lab Credits: 1
- CEE 225 - Principles of Environmental Science and Engineering Credits: 3
- CEE 323 - Water Supply and Wastewater Engineering Credits: 3
- CEE 434 - Hydrology Credits: 3

- CEE 346 - Geotechnical Engineering (COM) Credits: 3
- CEE 346L - Geotechnical Engineering Lab (COM) Credits: 1
- CEE 423 - Municipal Water Distribution and Collection System Design Credits: 3
- CEE 432 - Hydraulic Engineering Credits: 3
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- PS 462 - Environmental Soil Management Credits: 2
- PS 462L - Environmental Soil Management Lab Credits: 1
- PS 483 - Irrigation – Crop and Soil Practices Credits: 3

Total Required Credits: 130

Curriculum Notes

¹Required to receive a "C" or better in ENGL 277.

²Technical elective credit not given for both CEE/CM 482 and EE 422.

³Students 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	97 Credit Hours
Electives**	0 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Agricultural Business (B.S.)

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
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. This degree program is also available online.

Accreditation

The Ness School of Management and Economics is accredited by the Association to Advance Collegiate Schools of Business International (AACSB).

Course Delivery Format

The program offers courses on campus and online.

Academic Requirements

Students must earn a grade of "C" or better in BADM 485 - Strategic Management, 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 AGECE 371 - Agricultural Business Management).

If a student chooses to double major in two or more majors offered through the Ness School of Management and Economics, each major needs to have at least 15 credits that are distinct from the other major(s).

Requirements for Agricultural Business Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3

- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

Major Requirements

- AFES 203 - Global Food Systems [SGR #3, HSDC] Credits: 3
- AFES (excluding AFES 203), AS, AST, DS, EES, FS, HO, NRM, PRAG, PS, RANG, VET, WL Electives Credits: 4-6
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- AGE 354 - Agricultural Marketing and Prices Credits: 3
- AGE 371 - Agricultural Business Management Credits: 3 or MGMT 360 - Organization and Management (COM) Credits: 3
- AGE 479 - Agricultural Policy Credits: 3
- AGE or OM Electives Credits: 9
- BADM 101 - Survey of Business (COM) [HSDC] Credits: 3
- BADM 321 - Business Statistics II (COM) Credits: 3 or DSCI 424 - Operations Research (COM) Credits: 3
- BADM 485 - Strategic Management 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, HSDC] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] 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, HSDC] 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*	28-29 Credit Hours
Major Requirements	75-77 Credit Hours
Electives**	14-17 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

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

Program Coordinator/Contact

Mary Christensen, Assistant Dean for Academic Programs
Agricultural Leadership, Education, Communication and Science (ALECS)
College of Agriculture, Food and Environmental Sciences
Berg Agricultural Hall 162
605-688-5133

Laura Hasselquist, Associate Professor
School of Education, Counseling and Human Development
Wenona Hall 110
605-688-6418

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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AGED, AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AGED, AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education course.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AGED, AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education course.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AGED, AIS, EDFN, SPED, or SEED prefixes).

- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education course.

Requirements for Agricultural Education, Communication and Leadership Major - Agricultural Education Specialization: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 (recommended) or ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credit: 3
- Goal #6 Natural Sciences: BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2, BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3, and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- AGE 271 - Farm and Ranch Management Credits: 3
- AGED 119 - First Year Seminar Credits: 2
- AGED 295 - Practicum (COM) Credits: 1
- AGED 305 - Philosophy of Career and Technical Education Credits: 2
- AGED 404 - Methods in Agricultural Education Credits: 3
- AGED 408 - Supervision of Work Experience and Youth Organizations Credits: 2
- AGED 431 - Work Based Learning Credits: 2
- AGED 491 - Independent Study (COM) Credits: 1-3 (1 credit required) (Welding)
- AGED 494 - Internship (COM) Credits: 1-12 (1 credit required)
- AS 101 - Introduction to Animal Science Credits: 3
- AS 101L - Introduction to Animal Science Lab Credits: 1
- AS 285 - Livestock Evaluation and Marketing Credits: 2
and AS 285L - Livestock Evaluation and Marketing Lab Credits: 1
or AGE 354 - Agricultural Marketing and Prices Credits: 3
- AST 205 - Principles of Agricultural Systems Technology for Teachers Credits: 2
- AST 205L - Principles of Agricultural Systems Technology for Teachers Lab Credits: 1
- DS 130 - Introduction to Dairy Science Credits: 2
and DS 130L - Introduction to Dairy Science Lab Credits: 1
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
or AS 241 - Introduction to Meat Science Credits: 2
and AS 241L - Introduction to Meat Science Lab Credits: 1
- HO 111 - Introduction to Horticulture Credits: 2
and HO 111L - Introduction to Horticulture Lab Credits: 1
or PS 103 - Crop Production Credits: 2
and PS 103L - Crop Production Lab Credits: 1
- NRM 110 - People and the Environment [HSDC] Credits: 3
or RANG 205 - Introduction to Range Management [SGR #6, HSDC] Credits: 2
and RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1
or WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- PRAG 204 - Precision Agriculture for Teachers Credits: 2
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1

Teaching Specialization Requirements

- AGED 404 - Methods in Agricultural Education Credits: 3 (Teaching Content Methods Requirement) (Major Requirement)
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3

- 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
- SEED 456 - Capstone/Action Research Credits: 1
- SPED 100 - Introduction to Persons with Exceptionalities (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*	31 Credit Hours
Major Requirements	41 Credit Hours
Teaching Specialization Requirements	37 Credit Hours
Electives**	11 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

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

Program Coordinator/Contact

Mary Christensen, Assistant Dean for Academic Programs
Agricultural Leadership, Education, Communication and Science (ALECS)
College of Agriculture, Food and Environmental Sciences
Berg Agricultural Hall 162
605-688-5133

Erica Quam, Professional Academic Advisor
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.

Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

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.

Requirements for Agricultural Education, Communication and Leadership Major - Communication Specialization: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3

- Goal #3 Social Sciences: SGR #3 Elective Credits: 3 and ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 (recommended) or ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2, BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3, and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- ADV 370 - Advertising Principles (COM) Credits: 3
or PUBR 243 - Public Relations Principles (COM) Credits: 3
- AGED 119 - First Year Seminar Credits: 2
or MCOM 119 - First-Year Seminar in Communication and Journalism Credits: 2
- Agricultural Electives - Select from the following disciplines: AFES, AGECE, AGED, AS, AST, DS, EES, FS, HO, NRM, PRAG, PS, RANG, VET, or WL Credits: 9
- AS 101 - Introduction to Animal Science Credits: 3
- AS 101L - Introduction to Animal Science Lab Credits: 1
- CMST Elective 300- or 400-level Credits: 3
- MCOM 210 - Basic Media Writing (COM) Credits: 3
- MCOM 220 - Introduction to Digital Media (COM) Credits: 3
- MCOM 250 - Principles of Agricultural Communication Credits: 3
- MCOM 265 - Basic Photography (COM) Credits: 3
or MCOM 331 - Video Production (COM) Credits: 3
- MCOM 311 - News Editing (COM) Credits: 3
or MCOM 438 - Watchdog Reporting 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 - Media Law (COM) Credits: 3
- MCOM 435 - Agricultural Communication Capstone Credits: 3
- MCOM or ADV or PUBR Electives Credits: 9
- PS 103 - Crop Production Credits: 2
- PS 103L - Crop Production Lab Credits: 1

Upper-Level Ag Requirement

Select from the following. Credits: 3-4

- AGECE 471 - Advanced Farm and Ranch Management Credits: 3
- AS 389 - Current Issues in Animal Science Credits: 3
- DS 480 - Dairy Farm Operations I Credits: 3
- DS 480L - Dairy Farm Operations I Lab Credits: 1
- DS 481 - Dairy Farm Operations II Credits: 3
- DS 481L - Dairy Farm Operations II Lab Credits: 1
- HO 434 - Local Food Production Credits: 2
- HO 435 - Local Food Production: Harvest and Storage Credits: 2
- HO 475 - Senior Capstone Credits: 3
- NRM 485 - Integrated Natural Resource Management Credits: 3
- PRAG 440 - Crop Management with Precision Farming Credits: 2
- PRAG 440L - Crop Management with Precision Farming Lab Credits: 1
- PRAG 475 - Senior Capstone Credits: 3
- RANG 374 - Habitat Conservation and Management Credits: 3
- RANG 374L - Habitat Conservation and Management Lab 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*	31 Credit Hours
Major Requirements	41 Credit Hours
Teaching Specialization Requirements	37 Credit Hours

Electives**

11 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

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

Program Coordinator/Contact

Mary Christensen, Assistant Dean for Academic Programs
Agricultural Leadership, Education, Communication and Science (ALECS)
College of Agriculture, Food and Environmental Sciences
Berg Agricultural Hall 162
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.

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Elective Credits: 3 and ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 (recommended) or ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2, BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3, and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- AFES 203 - Global Food Systems [SGR #3, HSDC] Credits: 3
- AFES 482 - International Agricultural Travel Experience Credits: 1-4 (3 credits required)
or XXX 494 - Internship Credits: 2-3
or XXX 498 - Undergraduate Research Credits: 2-3
- AGED 119 - First Year Seminar Credits: 2
- AGECE 479 - Agricultural Policy Credits: 3
- Agricultural Electives - Select from the following disciplines: AFES, AGECE, AGED, AS, AST, DS, EES, FS, HO, NRM, PRAG, PS, RANG, VET, or WL Credits: 9
- AS 101 - Introduction to Animal Science Credits: 3
- AS 101L - Introduction to Animal Science Lab Credits: 1
CMST Elective 300- or 400-level Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3
- LDR 310 - Leadership in Context (COM) Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- LMNO 201 - Introduction to Leadership and Management of Nonprofit Organizations Credits: 3
- LMNO 301 - Fundraising and Resource Development Credits: 3
or LMNO 305 - Volunteer Management Credits: 3
- PS 103 - Crop Production Credits: 2
- PS 103L - Crop Production Lab Credits: 1

Upper-Level Ag Requirement

Select from the following. Credits: 3-4

- AGECE 471 - Advanced Farm and Ranch Management Credits: 3
- AS 389 - Current Issues in Animal Science Credits: 3
- DS 480 - Dairy Farm Operations I Credits: 3
- DS 480L - Dairy Farm Operations I Lab Credits: 1
- DS 481 - Dairy Farm Operations II Credits: 3
- DS 481L - Dairy Farm Operations II Lab Credits: 1
- HO 434 - Local Food Production Credits: 2
- HO 435 - Local Food Production: Harvest and Storage Credits: 2
- HO 475 - Senior Capstone Credits: 3
- NRM 485 - Integrated Natural Resource Management Credits: 3
- PRAG 440 - Crop Management with Precision Farming Credits: 2
- PRAG 440L - Crop Management with Precision Farming Lab Credits: 1
- PRAG 475 - Senior Capstone Credits: 3
- RANG 374 - Habitat Conservation and Management Credits: 3
- RANG 374L - Habitat Conservation and Management Lab 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*	31 Credit Hours
Major Requirements	47-49 Credit Hours
Electives**	40-42 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

Agricultural Science (A.S.)

Program Coordinator/Contact

Mary Christensen, Assistant Dean for Academic Programs
Agricultural Leadership, Education, Communication and Science (ALECS)
College of Agriculture, Food and Environmental Sciences
Berg Agricultural Hall 162
605-688-5133

Program Information

The Agricultural Science program prepares undergraduate students to manage a farm or ranch enterprise or work in the agricultural industry. Offering a flexible curriculum, the Agricultural Science program also works well for students who are combining multiple fields of interest or exploring areas of interest in agriculture. The two-year Agricultural Science program is ideal for a student wishing to return to a family farm or ranch in a shorter timeline while accessing SDSU's rich academic environment. It is also an option for the student who does not find it advisable or possible to enter a regular four-year college program in Agriculture Science. 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.

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 3-6*

- Goal #4 Arts and Humanities: 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 AFES, AGECE, AGED, AS, AST, DS, EES, FS, HO, NRM, PRAG, PS, RANG, VET, and WL) Credits: 16
- AFES 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.

Agricultural Science (B.S.)

Program Coordinator/Contact

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College of Agriculture, Food and Environmental Sciences
Berg Agricultural Hall 162
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.

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Elective Credits: 3 and ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 (recommended) or ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences:
 - BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2 and BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1 or BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- AFES 119 - First Year Seminar Credits: 2
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
or STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3
- AGECE 271 - Farm and Ranch Management Credits: 3
- AGECE 354 - Agricultural Marketing and Prices Credits: 3
- Agriculture Electives - Select six credits with the prefix(es) of ABE, AFES, AST, DS, EES, FS, HO, NRM, PRAG, RANG, VET, or WL. Credits: 6
- AS 101 - Introduction to Animal Science Credits: 3
and AS 101L - Introduction to Animal Science Lab Credits: 1
or AS 102 - Fundamentals of Animal Science [HSDC] Credits: 3
or DS 130 - Introduction to Dairy Science Credits: 2
and DS 130L - Introduction to Dairy Science Lab Credits: 1
- AS 218 - Survey of Animal Nutrition Credits: 3
or AS 319 - Livestock Feeds and Feeding Credits: 2
and AS 319L - Livestock Feeds and Feeding Lab Credits: 1
- AS 332 - Livestock Breeding and Genetics Credits: 4
or PS 383 - Principles of Crop Improvement Credits: 2
and PS 383L - Principles of Crop Improvement Lab Credits: 1
or BIOL 371 - Genetics (COM) Credits: 3
- BIOL 103 - Biology Survey II (COM) [SGR #6, HSDC] Credits: 2
and BIOL 103L - Biology Survey II Lab (COM) [SGR #6, HSDC] Credits: 1
or BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits: 2
and BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1
or PRAG 203 - Introduction to Precision Agriculture Credits: 2
and PRAG 203L - Introduction to Precision Agriculture Lab Credits: 1
or RANG 205 - Introduction to Range Management [SGR #6, HSDC] Credits: 2
and RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1
- PS 103 - Crop Production Credits: 2
- PS 103L - Crop Production Lab Credits: 1
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1

Ag Product Electives

Select at least one class from the following courses. Credits: 2-3

- AS 241 - Introduction to Meat Science Credits: 2
- AS 241L - Introduction to Meat Science Lab Credits: 1
- AS 285 - Livestock Evaluation and Marketing Credits: 2
- AS 285L - Livestock Evaluation and Marketing Lab Credits: 1
- DS 231 - Dairy Foods Credits: 3
- FS 101 - Introduction to Food Science Credits: 3
- PS 308 - Grain Grading Credits: 1
- PS 308L - Grain Grading Lab Credits: 1
- PS 312 - Grain and Seed Production and Processing Credits: 3
- PS 403 - Seed Technology Credits: 2
- PS 403L - Seed Technology Lab Credits: 1

Business Electives

Select one of the following courses. Credits: 3

- AGECE 274 - Agribusiness Sales Credits: 3
- AGECE 352 - Agricultural Law Credits: 3
- AGECE 462 - Environmental Law Credits: 3
- AGECE 364 - Introduction to Cooperatives Credits: 3
- AGECE 366 - Food Law Credits: 3
- AGECE 371 - Agricultural Business Management Credits: 3
- FIN 280 - Personal Finance (COM) [HSDC] Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3
- MKTG 474 - Personal Selling (COM) Credits: 3

Upper-Level Ag Requirement

Select from the following courses. Credits: 3-4

- AGECE 471 - Advanced Farm and Ranch Management Credits: 3
- AS 389 - Current Issues in Animal Science Credits: 3
- DS 480 - Dairy Farm Operations I Credits: 3
- DS 480L - Dairy Farm Operations I Lab Credits: 1

- DS 481 - Dairy Farm Operations II Credits: 3
- DS 481L - Dairy Farm Operations II Lab Credits: 1
- HO 434 - Local Food Production Credits: 2
- HO 435 - Local Food Production: Harvest and Storage Credits: 2
- HO 475 - Senior Capstone Credits: 3
- NRM 485 - Integrated Natural Resource Management Credits: 3
- PRAG 440 - Crop Management with Precision Farming Credits: 2
- PRAG 440L - Crop Management with Precision Farming Lab Credits: 1
- PRAG 475 - Senior Capstone Credits: 3
- RANG 374 - Habitat Conservation and Management Credits: 3
- RANG 374L - Habitat Conservation and Management Lab 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*	31-32 Credit Hours
Major Requirements	43-47 Credit Hours
Electives**	41-46 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Agricultural Systems Technology (B.S.)

Program Coordinator/Contact

Kasiviswanathan Muthukumarappan, Maynard A. Klingbeil Endowed Department
Head and Distinguished Professor
Department of Agricultural and Biosystems Engineering
Raven Precision Agriculture Center 136
605-688-5666

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.

Accreditation

The B.S. in Agricultural Systems Technology is accredited by the American Society of Agricultural and Biological Engineers (ASABE).

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Elective Credits: 3 and ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences:
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1
or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits:

3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1

- PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3 and PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- AGE 274 - Agribusiness Sales Credits: 3
- AST 119 - First Year Seminar Credits: 1
- AST 213 - Ag, Industrial and Outdoor Power Credits: 2
- AST 213L - Ag, Industrial and Outdoor Lab Credits: 1
- AST 273 - Agricultural Computer Applications Credits: 3
- AST 313 - Farm Machinery Systems Management Credits: 2
- AST 313L - Farm Machinery Systems Management Lab Credits: 1
- AST 333 - Soil and Water Mechanics Credits: 2
- AST 333L - Soil and Water Mechanics Lab Credits: 1
- AST 342 - Applied Electricity Credits: 2
- AST 342L - Applied Electricity Lab Credits: 1
- AST 390 - Seminar (COM) Credits: 1
- AST 412 - Fluid Power Technology Credits: 2
- AST 412L - Fluid Power Technology Lab Credits: 1
- AST 423 - Rural Structures Credits: 2
- AST 423L - Rural Structures Lab Credits: 1
- AST 426 - Technology Applications for Precision Agriculture Credits: 2
- AST 426L - Technology Applications for Precision Agriculture Lab Credits: 1
- AST 443 - Food Processing and Engineering Fundamentals Credits: 2
- AST 443L - Food Processing and Engineering Fundamentals Lab Credits: 1
- AST 463 - 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 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2
- BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- FIN 280 - Personal Finance (COM) [HSDC] Credits: 3
- GE 121 - Engineering Design Graphics I Credits: 1 and GE 123 - Computer Aided Drawing Credits: 1 or PRAG 427 - Precision Ag Data Mapping Credits: 2
- MATH 120 - Trigonometry (COM) [SGR #5, HSDC] Credits: 3 or STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3
- PRAG 203 - Introduction to Precision Agriculture Credits: 2
- PRAG 203L - Introduction to Precision Agriculture Lab Credits: 1
- PRAG 340 - Climate Risk Management with Precision Agriculture Credits: 3
- PRAG 345 - Principles and Implications of Chemical Application Systems Credits: 3
- PS 103 - Crop Production Credits: 2
- PS 103L - Crop Production Lab Credits: 1
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1

Technical Electives

Select 15 credits from the following courses. It is recommended, but not required that students choose one of the following emphasis areas. Credits: 15

Business and Management Emphasis

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AGE 271 - Farm and Ranch Management Credits: 3
- AGE/BLAW 352 - Agricultural Law Credits: 3
- AGE 354 - Agricultural Marketing and Prices Credits: 3
- AGE 364 - Introduction to Cooperatives Credits: 3
- AGE 371 - Agricultural Business Management Credits: 3
- AGE 430 - Agribusiness Marketing and Prices Credits: 3
- AGE 454 - Economics of Grain and Livestock Marketing Credits: 3
- AGE 471 - Advanced Farm and Ranch Management Credits: 3
- AGE 473 - Rural Real Estate Appraisal Credits: 2

- AGE 473L - Rural Real Estate Appraisal Lab Credits: 1
- AGE 478 - Agricultural Finance Credits: 3
- AGE 479 - Agricultural Policy Credits: 3
- AGE 484 - Trading in Commodity Futures and Options Credits: 3
- BLAW 433 - Real Estate (COM) Credits: 3
- BLAW 453 - Principles and Procedures of Valuation Credits: 4
- ENTR 236 - Fundamentals of Innovation and Creativity Credits: 3
- FIN 420 - Student Managed Investment Fund Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3
- MKTG 474 - Personal Selling (COM) Credits: 3
- OM 363 - Introduction to Supply Chain Management Credits: 3
- OM 415 - Logistics and Transportation Management Credits: 3

Farm Operations Emphasis

- AGE 271 - Farm and Ranch Management Credits: 3
- AGE 354 - Agricultural Marketing and Prices Credits: 3
- AS 101 - Introduction to Animal Science Credits: 3
- AS 101L - Introduction to Animal Science Lab Credits: 1
- DS 130 - Introduction to Dairy Science Credits: 2
- DS 130L - Introduction to Dairy Science Lab Credits: 1
- PRAG 423 - Soil Fertility and Plant Nutrient Management Credits: 3
- PRAG 424 - Wheat Production Credits: 2
- PRAG 425 - Soybean Production Credits: 2
- PRAG 426 - Corn Production Credits: 2
- PRAG 440 - Crop Management with Precision Farming Credits: 2
- PRAG 440L - Crop Management with Precision Farming Lab Credits: 1
- PS 223 - Principles of Plant Pathology Credits: 2
- PS 223L - Principles of Plant Pathology Lab Credits: 1
- PS 313 - Forage Crop and Pasture Management Credits: 3
- PS 345 - Non-Chemical Weed Management Credits: 3
- PS 405 - Entomology (COM) Credits: 2
- PS 405L - Entomology Lab (COM) Credits: 1
- PS 407 - Insect Pest Management Credits: 2
- PS 407L - Insect Pest Management Lab Credits: 1
- PS 433 - Field Crop Diseases and Management Credits: 3
- RANG 205 - Introduction to Range Management [SGR #6, HSDC] Credits: 2
- RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1
- RANG 215 - Introduction to Integrated Ranch Management Credits: 3

Product Testing and Validation Emphasis

- ABE 234 - Digital Tools for Agricultural and Biosystems Engineering Credits: 3
- AST 303 - Design Management Experience Credits: 2
- AST 303L - Design Management Experience Lab Credits: 1
- ET 210 - Introduction to Electronic Systems Credits: 3
- ET 210L - Introduction to Electronic Systems Lab Credits: 1
- ET 240 - Techniques of Servicing Credits: 3
- ET 370 - Data Acquisition Credits: 2
- ET 370L - Data Acquisition Lab Credits: 1
- GE 225 - Survey of Machine Tool Applications Credits: 1
- GE 241 - Applied Mechanics Credits: 3
- GE 265 - Industrial Safety Credits: 3
- INFO 101 - Introduction to Informatics [HSDC] Credits: 3
- PRAG 304 - Electrical Diagnostics for Farm Machinery Credits: 2
- PRAG 304L - Electrical Diagnostics for Farm Machinery Lab Credits: 1
- PS 345 - Non-Chemical Weed 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
Major Requirements	80 Credit Hours
Electives**	8 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Agronomy (B.S.)

Program Coordinator/Contact

Karen Sanguinet, Klingbeil Endowed Department Head
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.

Certification and Licensure

Students interested in professional certification should consult their advisor and refer to the appropriate organization's website:

- Soil Science Certification - Soil Science Society of America
- Certified Professional Agronomist - Certified Crop Advisor
- Seed Analyst Certification - Association of Official Seed Analysts and Society of Commercial Seed Technologists

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 or ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5 or MATH 120 - Trigonometry (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences:
 - BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2 and BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1 or BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
 - BIOL 103 - Biology Survey II (COM) [SGR #6, HSDC] Credits: 2 and BIOL 103L - Biology Survey II Lab (COM) [SGR #6, HSDC] Credits: 1 or BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1 or BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits:

2 and BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- AGE 354 - Agricultural Marketing and Prices Credits: 3 or AS 285 - Livestock Evaluation and Marketing Credits: 2 and AS 285L - Livestock Evaluation and Marketing Lab Credits: 1 or ENGL 379 - Technical Communication (COM) Credits: 3 or MKTG 474 - Personal Selling (COM) Credits: 3
- BIOL 202 - Genetics and Molecular Biology Credits: 3 and BIOL 202L - Genetics and Molecular Biology Lab Credits: 1 or BIOL 371 - Genetics (COM) Credits: 3 or PS 383 - Principles of Crop Improvement Credits: 2² and PS 383L - Principles of Crop Improvement Lab Credits: 1²
- BOT 327 - Plant Physiology Credits: 3 and BOT 327L - Plant Physiology Lab Credits: 1 or BOT 419 - Plant Ecology (COM) Credits: 2 and BOT 419L - Plant Ecology Lab (COM) Credits: 1
- CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4 and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 120 - Elementary Organic Chemistry Credits: 2 and CHEM 120L - Elementary Organic Chemistry Lab Credits: 1
- PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3 and PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1 or PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3 and PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PS 103 - Crop Production Credits: 2^A
- PS 103L - Crop Production Lab Credits: 1^A
- PS 119 - First Year Seminar Credits: 1^A
- PS 213 - Soils [SGR #6, HSDC] Credits: 2^A
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1^A
- PS 223 - Principles of Plant Pathology Credits: 2^A
- PS 223L - Principles of Plant Pathology Lab Credits: 1^A
- PRAG 285 - Agricultural Computations Credits: 2^A
- PRAG 423 - Soil Fertility and Plant Nutrient Management Credits: 3^A
- PRAG 475 - Senior Capstone Credits: 3^A
- PS 405 - Entomology (COM) Credits: 2^A and PS 405L - Entomology Lab (COM) Credits: 1^A or PS 407 - Insect Pest Management Credits: 2^A and PS 407L - Insect Pest Management Lab Credits: 1^A
- PS 445 - Weed Science Credits: 2^A
- PS 445L - Weed Science Lab Credits: 1^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 - Soil Microbiology Credits: 2 and PS 421L - Soil Microbiology Lab Credits: 1 or MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3 and MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
- 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, HSDC] Credits: 3

Natural Resources Stewardship Electives

Select one of the following courses^A. Credits: 3-4

- AFES 203 - Global Food Systems [SGR #3, HSDC] Credits: 3²
- AFES 482 - International Agricultural Travel Experience Credits: 1-4
- BIOL 383 - Bioethics (COM) Credits: 4
- PRAG 310 - Sustainable Agriculture Credits: 3
- PRAG 410 - Soil Geography and Land Use Interpretation Credits: 2²
- PRAG 410L - Soil Geography and Land Use Interpretation Lab Credits: 1²
- PS 243 - Principles of Geology [SGR #6, HSDC] Credits: 3²
- PS 407 - Insect Pest Management Credits: 2²

- PS 407L - Insect Pest Management Lab Credits: 1 ²
- PS 462 - Environmental Soil Management Credits: 2 ²
- PS 462L - Environmental Soil Management Lab Credits: 1 ²

Precision Ag Electives

Select one of the following courses. Credits: 2-3

- AST 426 - Technology Applications for Precision Agriculture Credits: 2
- AST 426L - Technology Applications for Precision Agriculture Lab Credits: 1
- PRAG 203 - Introduction to Precision Agriculture Credits: 2
- PRAG 203L - Introduction to Precision Agriculture Lab Credits: 1
- PRAG 427 - Precision Ag Data Mapping Credits: 2 ²
- PRAG 440 - Crop Management with Precision Farming Credits: 2 ²
- PRAG 440L - Crop Management with Precision Farming Lab Credits: 1 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 - Woody Plants Credits: 3
- HO/ PS 255L - Woody Plants Lab Credits: 1
- HO/ PS 311 - Herbaceous Plants Credits: 2
- HO/ PS 311L - Herbaceous Plants Lab Credits: 1
- HO/ PS 339 - Arboriculture and Urban Forestry Credits: 3
- HO/ PS 411 - Fruit Crop Systems Credits: 1-6
- HO/ PS 413 - Greenhouse and High Tunnel Management Credits: 2
- HO/ PS 413L - Greenhouse and High Tunnel Management Lab Credits: 1
- HO/ PS 414 - Plant Propagation Credits: 2
- HO/ PS 414L - Plant Propagation Lab Credits: 1
- HO/ PS 416 - Landscape Nursery Management Credits: 3
- HO/ PS 434 - Local Food Production Credits: 2
- HO/ PS 435 - Local Food Production: Harvest and Storage Credits: 2
- HO/ PS 444 - Vegetable Crop Systems Credits: 1-6
- PRAG 340 - Climate Risk Management with Precision Agriculture Credits: 3
- PRAG 424 - Wheat Production Credits: 2
- PRAG 425 - Soybean Production Credits: 2
- PRAG 426 - Corn Production Credits: 2
- PRAG 427 - Precision Ag Data Mapping Credits: 2
- PRAG 428 - Use of Soil and Plant Sensors in Crop Production Credits: 3
- PRAG 440 - Crop Management with Precision Farming Credits: 2
- PRAG 440L - Crop Management with Precision Farming Lab Credits: 1
- PS 308 - Grain Grading Credits: 1
- PS 308L - Grain Grading Lab Credits: 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 (1 credit required)
- PS 383 - Principles of Crop Improvement Credits: 2 ²
- PS 383L - Principles of Crop Improvement Lab Credits: 1 ²
- PS 403 - Seed Technology Credits: 2
- PS 403L - Seed Technology Lab Credits: 1

Plant Protection

- HO/ PS 210 - Turf and Weed Management in Horticulture Credits: 2
- HO/ PS 210L - Turf and Weed Management in Horticulture Lab Credits: 1
- HO/ PS 329 - Horticultural Pests Credits: 3
- HO/ PS 345 - Non-Chemical Weed Management Credits: 3
- HO/ PS 447 - Organic Plant Production Credits: 3
- PS 405 - Entomology (COM) Credits: 2 ²
and PS 405L - Entomology Lab (COM) Credits: 1 ²
or PS 407 - Insect Pest Management Credits: 2 ²
and PS 407L - Insect Pest Management Lab Credits: 1 ²
- PS 415 - Mycology (COM) Credits: 2
- PS 415L - Mycology Lab (COM) Credits: 1
- PS 431 - Insect Ecology and Biological Control Credits: 3
- PS 433 - Field Crop Diseases and Management Credits: 3

Soils/Environmental Protection

- PRAG 310 - Sustainable Agriculture Credits: 3
- PRAG 410 - Soil Geography and Land Use Interpretation Credits: 2 ²
- PRAG 410L - Soil Geography and Land Use Interpretation Lab Credits: 1 ²
- PS 243 - Principles of Geology [SGR #6, HSDC] Credits: 3 ²
- PS 321 - Soil Judging Credits: 1 ¹
- PS 412 - Environmental Soil Chemistry Credits: 3
- PS 421 - Soil Microbiology Credits: 2 ²
- PS 421L - Soil Microbiology Lab Credits: 1 ²
- PS 462 - Environmental Soil Management Credits: 2 ²
- PS 462L - Environmental Soil Management Lab Credits: 1 ²
- PS 483 - 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
Major Requirements	58-64 Credit Hours
Plant Science Electives	15 Credit Hours
Electives**	12-22 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

American Indian and Indigenous Studies (B.A.)

Program Coordinator/Contact

Jamie Folsom, Assistant Professor of American Indian and Indigenous Studies
School of American and Global Studies
Lincoln Hall 227, Box 2212
605-688-4087

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.

Course Delivery Method

Courses for the American Indian and Indigenous Studies major are delivered in face-to-face and online 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: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+
- One declared minor outside of the major discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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 and 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, HSDC] Credits: 4
- AIS 102 - Introductory Lakota II (COM) [SGR #4, HSDC] Credits: 4
- AIS 201 - Intermediate Lakota I (COM) [SGR #4, HSDC] Credits: 3
- AIS 202 - Intermediate Lakota II (COM) [SGR #4, HSDC] Credits: 3
- AIS 490 - Seminar (COM) Credits: 3 (Capstone)

Select from the following

Select eighteen credits from the following. Credits: 18

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- AIS 240 - Contemporary Indigenous Issues Credits: 3
- AIS/ HIST/ WMST 349 - Women in American History (COM) Credits: 3
- AIS/ WMST 362 - Indigenous Feminisms Credits: 3
- AIS/ HIST 368 - History and Culture of the American Indian (COM) Credits: 3
- AIS/ HIST 373 - Oral History Credits: 3
- AIS/ MCOM 412 - Cultural Issues in Mass Communication Credits: 3
- AIS/ HIST 419 - World Environmental History (COM) Credits: 3
- AIS/ MCOM 420 - Indigenized Media: Rising Voices in Digital Storytelling Credits: 3
- AIS 430 - Indigenous Relationships to the Environment Credits: 3
- AIS/ ENGL 445 - American Indian Literature (COM) 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** 6+	Credit Hours
Major Requirements	38 Credit Hours
Electives***	52 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Animal Science (B.S.) - Food Animal Health Specialization

Program Coordinator/Contact

John Killefer, Professor
Department of Animal Science
Animal Science Complex 101
605-688-5165

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.

Accreditation

The B.S. in Animal Science is accredited by the American Society of Animal Science.

Course Delivery Format

The Animal Science program provides hands-on experiences in the classroom, laboratories, field trips, and at the livestock teaching units.

Admission and Eligibility Requirements

SDSU Professional (DVM) Program in Veterinary Medicine VFAST (Veterinary Food Animal Scholar Track)

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.

Requirements for Animal Science Major - Food Animal Health Specialization: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5 or MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences: BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3, BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1, BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3, and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- AS 101 - Introduction to Animal Science Credits: 3
- AS 101L - Introduction to Animal Science Lab Credits: 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 - Introduction to Meat Science Credits: 2
- AS 241L - Introduction to Meat Science Lab Credits: 1
- AS 319 - Livestock Feeds and Feeding Credits: 2
- AS 319L - Livestock Feeds and Feeding Lab Credits: 1
- AS 332 - Livestock Breeding and Genetics Credits: 4
- AS 333 - Livestock Reproduction Credits: 2
- AS 333L - Livestock Reproduction Lab Credits: 1
- AS 389 - Current Issues in Animal Science Credits: 3
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3

- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3 and MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1 or MICR 233 - Introductory Microbiology Credits: 3 and MICR 233L - Introductory Microbiology Lab Credits: 1
- NRM 282 - Natural Resource Statistics Credits: 2 and NRM 282L - Natural Resource Statistics Lab Credits: 1 or STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3
- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- VET 223 - Anatomy and Physiology of Domestic Animals Credits: 3
- VET 223L - Anatomy and Physiology of Domestic Animals Lab Credits: 1
- 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-AS 474L, AS 475-AS 475L, AS 476-AS 476L, AS 477-AS 477L, or AS 478-AS 478L.

- AS 445 - Value-Added Meat Products Credits: 2
- AS 445L - Value-Added Meat Products Lab Credits: 1
- AS 450 - Meat Product Safety and HACCP Credits: 3
- AS 474 - Cow/Calf Management Credits: 2
- AS 474L - Cow/Calf Management Lab Credits: 1
- AS 475 - Feedlot Operations and Management Credits: 2
- AS 475L - Feedlot Operations and Management Lab Credits: 1
- AS 476 - Horse Production Credits: 2
- AS 476L - Horse Production Lab Credits: 1
- AS 477 - Sheep and Wool Production Credits: 2
- AS 477L - Sheep and Wool Production Lab Credits: 1
- AS 478 - Swine Production Credits: 2
- AS 478L - Swine Production Lab 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*	32-34 Credit Hours
Major Requirements	88 Credit Hours
Electives**	0 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Animal Science (B.S.) - Industry Relations Specialization

Program Coordinator/Contact

John Killefer, Professor
Department of Animal Science
Animal Science Complex 101
605-688-5165

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.

Accreditation

The B.S. in Animal Science is accredited by the American Society of Animal Science.

Course Delivery Format

The Animal Science program provides hands-on experiences in the classroom, laboratories, field trips, and at the livestock teaching units.

Academic Requirements

Animal Science majors must achieve a minimum of a 2.0 GPA in Animal Science core courses for successful graduation. Core courses include AS 101-101L, AS 219, AS 241-241L, AS 319-319L, AS 332, AS 333-333L, AS 389, and 2 capstone courses in which the students receive the highest grades (if they take more than 2). Capstone courses include AS 445-445L, AS 450, AS 474-474L, AS 475-475L, AS 476-476L, AS 477-477L, and AS 478-478L.

Requirements for Animal Science Major - Industry Relations Specialization: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5 or MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences:
 - BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2 and BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1 or BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
 - BIOL 103 - Biology Survey II (COM) [SGR #6, HSDC] Credits: 2 and BIOL 103L - Biology Survey II Lab (COM) [SGR #6, HSDC] Credits: 1 or BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3 or AGECE 354 - Agricultural Marketing and Prices Credits: 3
- ADV 476 - 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 - Introduction to Animal Science Credits: 3
- AS 101L - Introduction to Animal Science Lab Credits: 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 - Introduction to Meat Science Credits: 2
- AS 241L - Introduction to Meat Science Lab Credits: 1

- AS 285 - Livestock Evaluation and Marketing Credits: 2
- AS 285L - Livestock Evaluation and Marketing Lab Credits: 1
- AS 319 - Livestock Feeds and Feeding Credits: 2
- AS 319L - Livestock Feeds and Feeding Lab Credits: 1
- AS 332 - Livestock Breeding and Genetics Credits: 4
- AS 333 - Livestock Reproduction Credits: 2
- AS 333L - Livestock Reproduction Lab Credits: 1
- AS 389 - Current Issues in Animal Science Credits: 3
- CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4
- CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 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 - Basic Media Writing (COM) Credits: 3
- VET 223 - Anatomy and Physiology of Domestic Animals Credits: 3
- VET 223L - Anatomy and Physiology of Domestic Animals Lab Credits: 1
- VET 403 - Animal Diseases and Their Control Credits: 3

Experiential Learning Requirement

Select at least one credit from the following list. Credits: 1

- AFES 482 - International Agricultural Travel Experience Credits: 1-4
- AS 322 - Advanced Livestock Evaluation Credits: 1
- AS 400 - Judging Team Credits: 1-2
- AS 491 - Independent Study (COM) Credits: 1-3
- AS 494 - Internship (COM) Credits: 1-12
- AS 498 - Research (COM) Credits: 1-3

Capstone Requirements

Select from the following. Credits: 9

- AS 445 - Value-Added Meat Products Credits: 2
- AS 445L - Value-Added Meat Products Lab Credits: 1
- AS 450 - Meat Product Safety and HACCP Credits: 3
- AS 474 - Cow/Calf Management Credits: 2
- AS 474L - Cow/Calf Management Lab Credits: 1
- AS 475 - Feedlot Operations and Management Credits: 2
- AS 475L - Feedlot Operations and Management Lab Credits: 1
- AS 476 - Horse Production Credits: 2
- AS 476L - Horse Production Lab Credits: 1
- AS 477 - Sheep and Wool Production Credits: 2
- AS 477L - Sheep and Wool Production Lab Credits: 1
- AS 478 - Swine Production Credits: 2
- AS 478L - Swine Production Lab Credits: 1

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 - Media Analytics Credits: 3
- CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] 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 250 - Principles of Agricultural Communication Credits: 3
- MCOM 270 - Data Analysis in Communication Credits: 3
- MCOM 331 - Video Production (COM) Credits: 3
- MCOM 430 - 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*	30-34 Credit Hours
Major Requirements	75-77 Credit Hours
Electives**	9-15 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Animal Science (B.S.) - Production Management Specialization

Program Coordinator/Contact

John Killefer, Professor
Department of Animal Science
Animal Science Complex 101
605-688-5165

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.

Accreditation

The B.S. in Animal Science is accredited by the American Society of Animal Science.

Course Delivery Format

The Animal Science program provides hands-on experiences in the classroom, laboratories, field trips, and at the livestock teaching units.

Academic Requirements

Animal Science majors must achieve a minimum of a 2.0 GPA in Animal Science core courses for successful graduation. Core courses include AS 101-101L, AS 219, AS 241-241L, AS 319-319L, AS 332, AS 333-333L, AS 389, and 2 capstone courses in which the students receive the highest grades (if they take more than 2). Capstone courses include AS 445-445L, AS 450, AS 474-474L, AS 475-475L, AS 476-476L, AS 477-477L, and AS 478-478L.

Requirements for Animal Science Major - Production Management Specialization: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5 or MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences:

- BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2 and BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1
or BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 103 - Biology Survey II (COM) [SGR #6, HSDC] Credits: 2 and BIOL 103L - Biology Survey II Lab (COM) [SGR #6, HSDC] Credits: 1
or BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AGECE 354 - Agricultural Marketing and Prices Credits: 3
- AS 101 - Introduction to Animal Science Credits: 3
- AS 101L - Introduction to Animal Science Lab Credits: 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 - Introduction to Meat Science Credits: 2
- AS 241L - Introduction to Meat Science Lab Credits: 1
- AS 285 - Livestock Evaluation and Marketing Credits: 2
- AS 285L - Livestock Evaluation and Marketing Lab Credits: 1
- AS 319 - Livestock Feeds and Feeding Credits: 2
- AS 319L - Livestock Feeds and Feeding Lab Credits: 1
- AS 332 - Livestock Breeding and Genetics Credits: 4
- AS 333 - Livestock Reproduction Credits: 2
- AS 333L - Livestock Reproduction Lab Credits: 1
- 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

- AFES 482 - International Agricultural Travel Experience Credits: 1-4
- AS 322 - Advanced Livestock Evaluation Credits: 1
- AS 400 - Judging Team Credits: 1-2
- AS 491 - Independent Study (COM) Credits: 1-3
- AS 494 - Internship (COM) Credits: 1-12
- AS 498 - Research (COM) Credits: 1-3

Capstone Requirements

Select from the following. Credits: 9

- AS 445 - Value-Added Meat Products Credits: 2
- AS 445L - Value-Added Meat Products Lab Credits: 1
- AS 450 - Meat Product Safety and HACCP Credits: 3
- AS 474 - Cow/Calf Management Credits: 2
- AS 474L - Cow/Calf Management Lab Credits: 1
- AS 475 - Feedlot Operations and Management Credits: 2
- AS 475L - Feedlot Operations and Management Lab Credits: 1
- AS 476 - Horse Production Credits: 2
- AS 476L - Horse Production Lab Credits: 1
- AS 477 - Sheep and Wool Production Credits: 2
- AS 477L - Sheep and Wool Production Lab Credits: 1
- AS 478 - Swine Production Credits: 2
- AS 478L - Swine Production Lab Credits: 1

Science Requirements

- CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1
or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4 and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1

or CHEM 326 - Organic Chemistry I (COM) Credits: 3
and CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1

- VET 223 - Anatomy and Physiology of Domestic Animals Credits: 3
- VET 223L - Anatomy and Physiology of Domestic Animals Lab 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*	30-34 Credit Hours
Major Requirements	59-62 Credit Hours
Electives**	24-31 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Animal Science (B.S.) - Science Specialization

Program Coordinator/Contact

John Killefer, Professor
Department of Animal Science
Animal Science Complex 101
605-688-5165

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.

Accreditation

The B.S. in Animal Science is accredited by the American Society of Animal Science.

Course Delivery Format

The Animal Science program provides hands-on experiences in the classroom, laboratories, field trips, and at the livestock teaching units.

Academic Requirements

Animal Science majors must achieve a minimum of a 2.0 GPA in Animal Science core courses for successful graduation. Core courses include AS 101-101L, AS 219, AS 241-241L, AS 319-319L, AS 332, AS 333-333L, AS 389, and 2 capstone courses in which the students receive the highest grades (if they take more than 2). Capstone courses include AS 445-445L, AS 450, AS 474-474L, AS 475-475L, AS 476-476L, AS 477-477L, and AS 478-478L.

Requirements for Animal Science Major - Science Specialization: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5 or MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC]

Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4

- Goal #6 Natural Sciences: BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3, BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1, BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3, and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AS 101 - Introduction to Animal Science Credits: 3
- AS 101L - Introduction to Animal Science Lab Credits: 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 - Introduction to Meat Science Credits: 2
- AS 241L - Introduction to Meat Science Lab Credits: 1
- AS 319 - Livestock Feeds and Feeding Credits: 2
- AS 319L - Livestock Feeds and Feeding Lab Credits: 1
- AS 332 - Livestock Breeding and Genetics Credits: 4
- AS 333 - Livestock Reproduction Credits: 2
- AS 333L - Livestock Reproduction Lab Credits: 1
- AS 389 - Current Issues in Animal Science Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3 or NRM 282 - Natural Resource Statistics Credits: 2 and NRM 282L - Natural Resource Statistics Lab Credits: 1
- VET 403 - Animal Diseases and Their Control Credits: 3

Experiential Learning Requirement

Select from the following. Credits: 1-3

- AFES 482 - International Agricultural Travel Experience Credits: 1-4
- AS 322 - Advanced Livestock Evaluation Credits: 1
- AS 400 - Judging Team Credits: 1-2
- AS 491 - Independent Study (COM) Credits: 1-3
- AS 494 - Internship (COM) Credits: 1-12
- AS 498 - Research (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 - Value-Added Meat Products Credits: 2
- AS 445L - Value-Added Meat Products Lab Credits: 1
- AS 450 - Meat Product Safety and HACCP Credits: 3
- AS 474 - Cow/Calf Management Credits: 2
- AS 474L - Cow/Calf Management Lab Credits: 1
- AS 475 - Feedlot Operations and Management Credits: 2
- AS 475L - Feedlot Operations and Management Lab Credits: 1
- AS 476 - Horse Production Credits: 2
- AS 476L - Horse Production Lab Credits: 1
- AS 477 - Sheep and Wool Production Credits: 2
- AS 477L - Sheep and Wool Production Lab Credits: 1
- AS 478 - Swine Production Credits: 2
- AS 478L - Swine Production Lab Credits: 1

Science Requirements

- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3

- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3 and MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
or MICR 233 - Introductory Microbiology Credits: 3 and MICR 233L - Introductory Microbiology Lab Credits: 1
- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- VET 223 - Anatomy and Physiology of Domestic Animals Credits: 3
- VET 223L - Anatomy and Physiology of Domestic Animals Lab 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*	32-34 Credit Hours
Major Requirements	76-78 Credit Hours
Electives**	8-12 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Architecture (B.F.A.)

Program Coordinator/Contact

Sean Ervin, Professor of Practice and Program Coordinator
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
605-688-4103

Program Information

The Architecture program has three academic components:

1. The first year School of Design cross-disciplinary experience.
2. The three semester pre-professional building arts and public works design experience.
3. 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.

Course Delivery Format

The curriculum is interactive, haptic and performance based, offering problem solving experiences in all major areas of professional practice.

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.

Requirements for Architecture Major: 120 Credits

Bachelor of Fine Arts

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: ARCH 241 - Construction History [SGR #4, HSDC] Credits: 3 and DSGN 121 - Design I 2D (COM) [SGR #4, HSDC] Credits: 3
- Goal #5 Mathematics: MATH 120 - Trigonometry (COM) [SGR #5, HSDC] Credits: 3

- Goal #6 Natural Sciences: SGR #6 Elective Credits: 3, PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3, and PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1

College of Arts, Humanities and Social Sciences Requirements

Bachelor of Fine Arts Requirements

- 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 and 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, HSDC] 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 six credits from the ART/GDES/DSGN prefixed courses listed below. Contact the School of Design advisor for approval of additional courses. Credits: 6

- ART 112 - Drawing II (COM) [SGR #4, HSDC] 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 - Topics (COM) Credits: 1-9 (3 credits required) (Illustration or Letterpress)
- DSGN 482 - Travel Studies Credits: 1-5 (3 credits required)
- GDES 207 - Interactive Design I Credits: 3
- GDES 216 - Typography Credits: 3

Major Requirements

- ARCH 101 - Drawing Architecture Credits: 3
- ARCH 230 - Design Material and Assembly Credits: 2
- ARCH 230L - Design Material and Assembly Lab Credits: 1
- 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 - Writing Architecture Credits: 3
- ARCH 402 - Reading Architecture Credits: 3
- ARCH 433 - Technology of Structures Credits: 3
- ARCH 434 - Technology of Systems Credits: 3
- ARCH 443 - Urban History Credits: 3
- ARCH 454 - Research Studio Credits: 5
- ARCH 454L - Research Lab Credits: 2
- ARCH 455 - Building Studio Credits: 5
- ARCH 455L - Building Lab Credits: 2
- DSGN 253 - Site Analysis and Surrounding Credits: 3
- LA 242 - People and the Environment 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*	31 Credit Hours
College of Arts, Humanities and Social Sciences Requirements	0 Credit Hours
School of Design Requirements**	11 Credit Hours

Major Requirements	72 Credit Hours
Electives***	6 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, College Requirements, and School Requirements.

**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.

Aviation (B.S.) - Aviation Education Specialization

Program Coordinator/Contact

Maria Julius, Instructor
School of Health and Human 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.

Accreditation

The Aviation (B.S.) - Education Specialization is accredited by the Aviation Accreditation Board International (AABI).

Course Delivery Formats

Aviation students learn through lecture, laboratory, student led instruction, and flight training based at the Brookings Regional Airport. For more information regarding required flight charges please access www.sdstate.edu/school-health-human-sciences/sdsu-aviation-required-flight-charges.

Academic Requirements

A grade of C or better is required in all AVIA prefix courses to count towards graduation with the major. A grade of D in any AVIA prefix course cannot be counted and must be repeated to graduate with the major. Students will not be allowed to continue in the Aviation program if they have received a failing or D grade in any one AVIA course two times.

Students will be required to produce documentation of a completed FAA Medical Certificate (1st or 2nd Class) from a recognized aviation medical examiner prior to beginning flight course AVIA 171.

Enrollment caps for aviation flight courses are implemented to safeguard the quality of education, ensure safety standards, and comply with accreditation guidelines. Enrollment in AVIA prefix courses are on a first come first serve basis for students who fully meet any course prerequisites.

Requirements for Aviation Major - Aviation Education Specialization: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3, GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1, PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3, and PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1

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 - Introduction to Aviation Meteorology 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

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Biochemistry (B.S.)

Program Coordinator/Contact

Brian Logue, Department Head
Melody Jewell, Coordinator of Undergraduate Programs
Department of Chemistry, Biochemistry and Physics
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.

Accreditation

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.

Academic Requirements

A grade of "C" or better is required in all courses required for the major.

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences: CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement), CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement), and CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement)

Department of Chemistry, Biochemistry and Physics Requirements

- Capstone course in the major discipline
- Upper division coursework Credits: 33

Major Requirements

- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 119 - First Year Seminar Credits: 1
- CHEM 180 - Introduction to Laboratory Safety Credits: 1
- CHEM 237 - Introduction to Research Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 448 - Biophysical Chemistry Credits: 3
- CHEM 448L - Biophysical Chemistry Lab Credits: 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 - Research (COM) Credits: 1-12 (4 credits required) Must be taken over 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 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- BIOL 371 - Genetics (COM) Credits: 3
- BIOL 373 - Evolution (COM) Credits: 3
- BIOL 383 - Bioethics (COM) Credits: 4
- BIOL 466 - Environmental Toxicology and Contaminants (COM) Credits: 3

- BIOL 470 - Cancer Biology (COM) Credits: 3
- BIOL 483 - Developmental Biology (COM) Credits: 3
- BOT 327 - Plant Physiology Credits: 3
- BOT 327L - Plant Physiology Lab Credits: 1
- CHEM 467 - Essentials of Glycobiology Credits: 3 (Can be used for upper division chemistry elective OR upper division biology elective, but not both)
- CHEM 468 - Chemical Biology Credits: 3 (Can be used for upper division chemistry elective OR upper division biology elective, but not both)
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3 and MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
or MICR 233 - Introductory Microbiology Credits: 3 and MICR 233L - Introductory Microbiology Lab Credits: 1
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MICR 424 - Medical and Veterinary Virology Credits: 3
- MICR 438L - Techniques in Molecular Biology Laboratory Credits: 2
- MICR 439 - Medical and Veterinary Immunology Credits: 3
- MICR 448 - Molecular and Microbial Genetics Credits: 4
- MICR 450 - Applied Microbiology and Biotechnology Credits: 3
- STAT 435 - 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 - Analytical Chemistry (COM) Credits: 3
- CHEM 332L - Analytical Chemistry Lab (COM) Credits: 1
- CHEM 343 - Fundamentals of Chemical Thermodynamics Credits: 2
- CHEM 343L - Fundamentals of Chemical Thermodynamics Lab Credits: 1
- CHEM 432 - Analytical Chemistry II Credits: 2
- CHEM 433 - Bioanalytical Chemistry Credits: 2
- CHEM 452 - Inorganic Chemistry (COM) Credits: 3
- CHEM 452L - Inorganic Chemistry Lab (COM) Credits: 1
- CHEM 467 - Essentials of Glycobiology Credits: 3 (Can be used for upper division chemistry elective OR upper division biology elective, but not both)
- CHEM 468 - Chemical Biology 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 - Chemical Toxicology Credits: 3
- PHYS 437 - Foundations of Health Physics Credits: 3

Supporting Coursework

- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
- PHYS 211 - University Physics I (COM) [SGR #6, HSDC] Credits: 4
- PHYS 211L - University Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 213 - University Physics II (COM) [SGR #6, HSDC] Credits: 4
- PHYS 213L - University Physics II Lab (COM) [SGR #6, HSDC] Credits: 1

Electives

Taken as needed to complete any additional degree requirements.

Total Required Credits: 120

Notes

CHEM 498 - Research (COM) - The required undergraduate research project must be chemistry or biochemistry related 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 also 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*	25 Credit Hours
Major Requirements	53 Credit Hours
Supporting Coursework	17 Credit Hours
Electives**	25 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Biology (B.S.)

Program Coordinator/Contact

Jeremy Chambers, 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.

Course Delivery Format

Program coursework is on campus, in classroom and laboratories, as well as field-based settings. Limited coursework is available online.

Academic Requirements

A minimum GPA of 2.0 must be maintained in the major courses.

Requirements for Biology Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5 or higher SGR #5 MATH course Credits: 3-5
- Goal #6 Natural Sciences: BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement), BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement)

Major Requirements

- BIOL 119 - First Year Seminar Credits: 2
- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 202 - Genetics and Molecular Biology Credits: 3
- BIOL 202L - Genetics and Molecular Biology Lab Credits: 1
- BIOL 204 - Introduction to Cell Biology (COM) Credits: 3
- BIOL 204L - Introduction to Cell Biology Lab (COM) Credits: 1
- BIOL 290 - Seminar (COM) Credits: 1
- BIOL 383 - Bioethics (COM) Credits: 4
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3

- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- MICR 233 - Introductory Microbiology Credits: 3
- MICR 233L - Introductory Microbiology Lab Credits: 1
- PHYS Electives Credits: 4
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

General Biology Requirements

- Biology majors without specializations are required to complete at least 13 additional departmental credits at the 300-400 level (BIOL, BOT, or MICR) (Max of 3 credits from BIOL 494, BOT 494 or MICR 494) Credits: 13
- In addition, select one of the following paths. Credits 10-11
 - BIOL 373 - Evolution (COM) Credits: 3
 - BIOL 221 - Human Anatomy (COM) Credits: 3
 - BIOL 221L - Human Anatomy Lab (COM) Credits: 1
 - BIOL 325 - Physiology (COM) Credits: 3
 - BIOL 325L - Physiology Lab (COM) Credits: 1
 - OR
 - BIOL 373 - Evolution (COM) Credits: 3
 - BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits: 2
 - BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1
 - BOT 327 - Plant Physiology Credits: 3
 - BOT 327L - Plant Physiology Lab Credits: 1
 - OR
 - BIOL 476 - Advanced Mammalian Physiology Credits: 4
 - MICR 439 - Medical and Veterinary Immunology Credits: 3
 - VET 223 - Anatomy and Physiology of Domestic Animals Credits: 3
 - VET 223L - Anatomy and Physiology of Domestic Animals Lab Credits: 1

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 MATH 123 and MATH 125.

² PHYS 101 and PHYS 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*	24-26 Credit Hours
Major Requirements	73-74 Credit Hours
Electives**	20-23 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Biology (B.S.) - Secondary Education Specialization

Program Coordinator/Contact

Jeremy Chambers, 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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.

- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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. Limited coursework is available online.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- A grade of "C" or better is required in academic major coursework (classes with BIOL, BOT, CHEM, MICR, NRM, or PHYS prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Requirements for Biology Major - Secondary Education Specialization: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3 (Teaching Specialization Requirement) and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5 or higher SGR #5 MATH course Credits: 3-5
- Goal #6 Natural Sciences: BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement), BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement)

Major Requirements

- BIOL 119 - First Year Seminar Credits: 2
- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 202 - Genetics and Molecular Biology Credits: 3
- BIOL 202L - Genetics and Molecular Biology Lab Credits: 1

- BIOL 204 - Introduction to Cell Biology (COM) Credits: 3
- BIOL 204L - Introduction to Cell Biology Lab (COM) Credits: 1
- BIOL 290 - Seminar (COM) Credits: 1
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3
- PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1
- MICR 233 - Introductory Microbiology Credits: 3
- MICR 233L - Introductory Microbiology Lab Credits: 1

Biology Secondary Education Specialization Requirements

- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 373 - Evolution (COM) Credits: 3
- BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits: 2
- BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1
- NRM 311 - Principles of Ecology (COM) Credits: 3

Select from the following

Select one of the following courses. Credits: 3-4

- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- BIOL/ PHIL 383 - Bioethics (COM) Credits: 4
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- PHIL/ REL 454 - Environmental Ethics (COM) Credits: 3

Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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 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
- SPED 100 - Introduction to Persons with Exceptionalities (COM) Credits: 3

Total Required Credits: 120

Summary of Program Requirements

Bachelor of Science

System General Education Requirements*	21-23 Credit Hours
Major Requirements	55-56 Credit Hours
Teaching Specialization Requirements	40 Credit Hours
Electives**	1-4 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Biotechnology (B.S.)

Program Coordinator/Contact

Jeremy Chambers, 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.

Course Delivery Format

Program coursework is on campus, in classroom and laboratories, as well as field-based settings. Limited coursework is available online.

Academic Requirements

A minimum GPA of 2.0 must be maintained in the major courses.

Requirements for Biotechnology Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5 or Higher SGR #5 Elective Credits: 3-5
- Goal #6 Natural Sciences: BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement), BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement)

Major Requirements

- BIOL 119 - First Year Seminar Credits: 2
- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 202 - Genetics and Molecular Biology Credits: 3
- BIOL 202L - Genetics and Molecular Biology Lab Credits: 1
- BIOL 204 - Introduction to Cell Biology (COM) Credits: 3
- BIOL 204L - Introduction to Cell Biology Lab (COM) Credits: 1
- BIOL 235 - Introduction to Biotechnology (COM) [SGR #6, HSDC] Credits: 2
- BIOL 235L - Introduction to Biotechnology Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 290 - Seminar (COM) Credits: 1 (Introduction to Capstone and Scientific Communication)
- BIOL 383 - Bioethics (COM) Credits: 4
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3

- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods - Biochemistry Credits: 1
- MICR 233 - Introductory Microbiology Credits: 3
- MICR 233L - Introductory Microbiology Lab Credits: 1
- MICR 448 - Molecular and Microbial Genetics Credits: 4
- MICR 438L - Techniques in Molecular Biology Laboratory Credits: 2
- MICR 450 - Applied Microbiology and Biotechnology Credits: 3
- PHYS Electives Credits: 4
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3
- STAT 435 - Applied Bioinformatics Credits: 3

Advanced Fundamentals & Applications Requirements

Select at least 12-16 credits from the following courses. Credits: 12-16

- ABE 343 - Engineering Properties of Biological Materials Credits: 2
- ABE 343L - Engineering Properties of Biological Materials Lab Credits: 1
- AS 332 - Livestock Breeding and Genetics Credits: 4
- AS 333 - Livestock Reproduction Credits: 2
- AS 333L - Livestock Reproduction Lab Credits: 1
- BIOL 470 - Cancer Biology (COM) Credits: 3
- BIOL 483 - Developmental Biology (COM) Credits: 3
- CEE 225 - Principles of Environmental Science and Engineering Credits: 3
- CHEM 448 - Biophysical Chemistry Credits: 3
- CHEM 448L - Biophysical Chemistry Lab Credits: 1
- CHEM 465 - Biochemistry II (COM) Credits: 3
- DS 301 - Dairy Microbiology Credits: 2
- DS 301L - Dairy Microbiology Lab Credits: 2
- DS 312 - Dairy Cattle Breeding and Evaluation Credits: 2
- DS 312L - Dairy Cattle Breeding and Evaluation Lab Credits: 2
- HO/PS 383 - Principles of Crop Improvement Credits: 2
- HO/PS 383L - Principles of Crop Improvement Lab Credits: 1
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MICR 439 - Medical and Veterinary Immunology Credits: 3
- MICR 424 - Medical and Veterinary Virology Credits: 3
- MICR 440L - Infectious Disease Lab Credits: 3
- MICR 494 - Internship (COM) Credits: 1-12 (3 credits required. Max of 3 credits allowed.)
or BIOL 494 - Internship (COM) Credits: 1-12 (3 credits required. Max of 3 credits allowed.)
- MICR 498 - Research (COM) Credits: 1-4 (3 credits required. Max of 3 credits allowed.)
or BIOL 498 - Research (COM) Credits: 1-12 (3 credits required. Max of 3 credits allowed.)
- VET 223 - Anatomy and Physiology of Domestic Animals Credits: 3
- VET 223L - Anatomy and Physiology of Domestic Animals Lab 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*	24-26 Credit Hours
Major Requirements	81-85 Credit Hours
Electives**	9-15 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Business Economics (B.A./B.S.)

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
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.

Accreditation

The Ness School of Management and Economics is accredited by the Association to Advance Collegiate Schools of Business International (AACSB).

Course Delivery Format

The program offers courses on campus and online.

Academic Requirements

Students must earn a grade of "C" or better in BADM 485 - Strategic Management, 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 or more majors offered through the Ness School of Management and Economics, each major needs to have at least 15 credits that are distinct from the other major(s).

Requirements for Business Economics Major: 120 Credits

Bachelor of Arts

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 or MATH 123 - Calculus I (COM) [SGR #5, HSDC] 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and 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) [HSDC] Credits: 3
- BADM 321 - Business Statistics II (COM) Credits: 3 or DSCI 424 - Operations Research (COM) Credits: 3
- BADM 485 - Strategic Management 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, HSDC] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] 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, CA, DSCI, ECON, ENTR, FIN, HRM, MKTG, MGMT, or OM Credits: 15

Supporting Coursework

- ENGL 379 - Technical Communication (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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*	28-29 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	6+ Credit Hours
Major Requirements	62 Credit Hours
Supporting Coursework	6 Credit Hours
Electives***	23-24 Credit Hours

Bachelor of Science

System General Education Requirements*	28-29 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	62 Credit Hours
Supporting Coursework	6 Credit Hours
Electives***	19-20 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Chemistry - ACS Certified (B.S.)

Program Coordinator/Contact

Brian Logue, Department Head
Melody Jewell, Coordinator of Undergraduate Programs
Department of Chemistry, Biochemistry and Physics
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 variety of 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.

Accreditation

The B.S. in Chemistry - ACS Certified 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. in Chemistry - ACS Certified 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.

Academic Requirements

A grade of "C" or better is required in all courses required for the major.

Requirements for Chemistry - ACS Certified 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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences: CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement), CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), and CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement)

Department of Chemistry, Biochemistry and Physics Requirements

- Capstone course in the major discipline
- Upper division coursework Credits: 33

Major Requirements

- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 119 - First Year Seminar Credits: 1
- CHEM 180 - Introduction to Laboratory Safety Credits: 1
- CHEM 237 - Introduction to Research Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 332 - Analytical Chemistry (COM) Credits: 3
- CHEM 332L - Analytical Chemistry Lab (COM) Credits: 1
- CHEM 343 - Fundamentals of Chemical Thermodynamics Credits: 2
- CHEM 343L - Fundamentals of Chemical Thermodynamics Lab Credits: 1
- CHEM 452 - Inorganic Chemistry (COM) Credits: 3
- CHEM 452L - Inorganic Chemistry Lab (COM) Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods - Biochemistry Credits: 1

- CHEM 490 - Seminar (COM) Credits: 1
- CHEM 498 - Research (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 345 - Quantum Mechanics of Chemical Systems Credits: 2
- CHEM 347 - Chemical Kinetics Credits: 2
- CHEM 432 - Analytical Chemistry II Credits: 2
- CHEM 433 - Bioanalytical Chemistry Credits: 2
- CHEM 448 - Biophysical Chemistry Credits: 3
- CHEM 448L - Biophysical Chemistry Lab Credits: 1
- CHEM 465 - Biochemistry II (COM) Credits: 3
- CHEM 467 - Essentials of Glycobiology Credits: 3
- CHEM 468 - Chemical Biology Credits: 3
- CHEM 482 - Environmental Chemistry (COM) Credits: 3-4 (3 credits required)
- CHEM 484 - Chemical Toxicology Credits: 3
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
- PHYS 341 - Thermodynamics (COM) Credits: 2
- PHYS 437 - Foundations of Health Physics Credits: 3

Supporting Coursework

- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5, HSDC] Credits: 4
- PHYS 211 - University Physics I (COM) [SGR #6, HSDC] Credits: 4
- PHYS 211L - University Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 213 - University Physics II (COM) [SGR #6, HSDC] Credits: 4
- PHYS 213L - University Physics II Lab (COM) [SGR #6, HSDC] Credits: 1

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 - Research (COM) - The required undergraduate research project must be chemistry or biochemistry related 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 also 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*	25 Credit Hours
Major Requirements	48 Credit Hours
Supporting Coursework	18 Credit Hours
Electives**	29 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Chemistry Education (B.S.)

Program Coordinator/Contact

Brian Logue, Department Head
Melody Jewell, Coordinator of Undergraduate Programs
Department of Chemistry, Biochemistry and Physics
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.

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 teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- A grade of "C" or better is required in academic major coursework (classes with BIOL, CHEM, or PHYS prefix).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Requirements for Chemistry Education Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences: CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement), CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), and CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement)

Department of Chemistry and Biochemistry Requirements

- Capstone course in the major discipline
- Upper division coursework Credits: 33

Major Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 119 - First Year Seminar Credits: 1
- CHEM 180 - Introduction to Laboratory Safety Credits: 1
- CHEM 237 - Introduction to Research Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 332 - Analytical Chemistry (COM) Credits: 3
- CHEM 332L - Analytical Chemistry Lab (COM) Credits: 1
- CHEM 343 - Fundamentals of Chemical Thermodynamics Credits: 2
- CHEM 452 - Inorganic Chemistry (COM) Credits: 3
- CHEM 452L - Inorganic Chemistry Lab (COM) Credits: 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 - Chemical Toxicology Credits: 3
- CHEM 498 - Research (COM) Credits: 1-12 (2 credits required)
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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

- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- 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
- SPED 100 - Introduction to Persons with Exceptionalities (COM) Credits: 3

Total Required Credits: 120

Summary of Program Requirements

Bachelor of Science

System General Education Requirements*	22 Credit Hours
Major Requirements	98 Credit Hours
Electives**	0 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Civil Engineering (B.S.)

Program Coordinator/Contact

Guanghai Hua, Department Head
Department of Civil and Environmental Engineering
Crothers Engineering Hall 310
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.

Accreditation

The Civil Engineering (B.S.) program at SDSU is accredited by the Engineering Accreditation Commission of ABET, under the General Criteria and Program Criteria for Civil and Similarly Named Engineering Programs.

Certification and Licensure

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.

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.

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 MATH 123, MATH 125, MATH 225, MATH 321, and STAT 381.
- Combined average of "C" or better in EM 214, EM 215, EM 321, and EM 331.

- Students must take the Fundamentals of Engineering examination prior to graduation.

Requirements for Civil Engineering Major: 130 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences: PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3, PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1, PHYS 209 - Fundamentals of Physics II (COM) [SGR #6, HSDC] Credits: 3, and PHYS 209L - Fundamentals of Physics II Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- CEE 101 - Introduction to Civil Engineering Credits: 1
- CEE 106 - Elementary Surveying Credits: 3
- CEE 106L - Elementary Surveying Lab Credits: 1
- CEE 216 - Civil Engineering Materials Credits: 2
- CEE 216L - Civil Engineering Materials Lab Credits: 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 - Engineering Geology Credits: 2
- CEE 340L - Engineering Geology Lab Credits: 1
- CEE 346 - Geotechnical Engineering (COM) Credits: 3
- CEE 346L - Geotechnical Engineering Lab (COM) Credits: 1
- 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 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3 (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 [HSDC] Credits: 1
- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5, HSDC] 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 - Asphalt Materials and Mix Design Credits: 2 ^{T*}
- CEE 411L - Asphalt Materials and Mix Design Lab Credits: 1 ^{T*}
- CEE 422 - Environmental Engineering Instrumentation Credits: 2 ^E
- CEE 422L - Environmental Engineering Instrumentation Lab Credits: 1 ^E
- CEE 423 - Municipal Water Distribution and Collection System Design Credits: 3 ^{W*}
- CEE 424 - Industrial Waste Treatment Credits: 3 ^{E*}
- CEE 434 - Hydrology Credits: 3 ^{W*}
- CEE 435 - Water Resources Engineering Credits: 3 ^W
- CEE 436 - Advanced Hydraulic Engineering Credits: 3 ^W
- CEE 438 - Environmental Fluid Mechanics Credits: 3 ^W
- CEE 443 - Matrix Analysis of Structures Credits: 3 ^S
- CEE 446 - Advanced Geotechnical Engineering Credits: 3 ^{G*}
- CEE 447 - Foundation Engineering (COM) Credits: 3 ^{G*}
- CEE 452 - Prestressed Concrete Credits: 3 ^{S*}
- CEE 458 - Design of Timber Structures Credits: 3 ^{S*}
- CEE 467 - Urban Transportation Engineering Design Credits: 3 ^{T*}
- CEE 469 - Rural Transportation Engineering Design Credits: 3 ^{T*}
- CEE 492 - Topics (COM) Credits: 1-3
- CEE 498 - Research (COM) Credits: 1-6

Total Required Credits: 130

Summary of Program Requirements

Bachelor of Science

System General Education Requirements*	33 Credit Hours
Major Requirements	97 Credit Hours
Electives**	0 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Communication Studies (B.A./B.S.)

Program Coordinator/Contact

Rebecca A. Kuehl, Associate Director
Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211
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.

Course Delivery Format

A wide range of course formats are available in this major including, lectures, laboratory, small group, seminar, interactive and collaborative partnerships.

Academic Requirements

A minimum grade of "C" or better is required in all major courses.

Requirements for Communication 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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

Major Requirements

- CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2, HSDC] Credits: 3
or CMST 222 - Argumentation and Debate (COM) [SGR #2, HSDC] Credits: 3
- CMST 305 - Communication Research (COM) Credits: 3
- CMST 405 - Theories of Communication (COM) Credits: 3
- CMST 410 - Organizational Communication (COM) Credits: 3
- CMST 416 - Rhetorical Criticism (COM) Credits: 3
or 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 12 credits from the following. Credits: 12

- CMST 215 - Public Speaking (COM) [SGR #2, HSDC] Credits: 3
or CMST 222 - Argumentation and Debate (COM) [SGR #2, HSDC] Credits: 3
- CMST 281 - Speech and Debate Activities (COM) Credits: 1-4
- CMST 311 - Business and Professional Communication (COM) Credits: 3
- CMST 320 - Communication in Interviewing (COM) Credits: 3
- CMST 401 - Advanced Interpersonal Communication (COM) Credits: 3
- CMST 415 - Communication and Gender (COM) Credits: 3
- CMST 416 - Rhetorical Criticism (COM) Credits: 3
or CMST 422 - Persuasion (COM) Credits: 3
- CMST 440 - Health Communication (COM) Credits: 3
- CMST 441 - Current Issues in Health Communication Credits: 3
- CMST 491 - Independent Study (COM) Credits: 1-3
- CMST 492 - Topics (COM) Credits: 1-5 (1-3 credits required)
- CMST 494 - Internship (COM) Credits: 1-16 (1-3 credits required)
- CMST 498 - Research (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**	6+ Credit Hours
Major Requirements	41 Credit Hours
Electives***	43 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours

Major Requirements	41 Credit Hours
Electives***	45 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Communication Studies (B.A./B.S.) - Communication Education Specialization

Program Coordinator/Contact

Rebecca A. Kuehl, Associate Director
Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211
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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- A grade of "C" or better is required in academic major coursework (classes with CMST or MCOM prefix).

- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Requirements for Communication Studies Major - Communication Education Specialization: 120 Credits

Bachelor of Arts

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: CMST 215 - Public Speaking (COM) [SGR #2, HSDC] Credits: 3 (Major Requirement) or CMST 222 - Argumentation and Debate (COM) [SGR #2, HSDC] Credits: 3 (Major Requirement)
- Goal #3 Social Sciences: AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3 (Teaching Specialization Requirement) and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

Major Requirements

- CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2, HSDC] Credits: 3 or CMST 222 - Argumentation and Debate (COM) [SGR #2, HSDC] 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 311 - Business and Professional Communication (COM) Credits: 3
- CMST 434 - Small Group Communication (COM) Credits: 3
- CMST 470 - Intercultural Communication (COM) Credits: 3
- CMST 491 - 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, HSDC] Credits: 3
- MCOM 416 - Mass Media in Society Credits: 3

Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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

- 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
- SPED 100 - Introduction to Persons with Exceptionalities (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*	24 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	6+ Credit Hours
Major Requirements	38 Credit Hours
Teaching Specialization Requirements	37 Credit Hours
Electives***	15 Credit Hours

Bachelor of Science

System General Education Requirements*	24 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	38 Credit Hours
Teaching Specialization Requirements	37 Credit Hours
Electives***	17 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Community and 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.

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: SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Elective Credits: 6
- Goal #5 Mathematics: SGR #5 Electives Credits: 3
- Goal #6 Natural Sciences: SGR #6 Elective Credits: 6

Department of Geography and Geospatial Sciences Requirements

- Upper division coursework Credits: 30

Major Requirements

- DSGN 253 - Site Analysis and Surrounding Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- GEOG 421 - Research Methods in Geography Credits: 3
- GEOG 454 - Sustainable Communities Credits: 3 (Capstone)
- GEOG 461 - Urban Geography Credits: 3
or SOC 440 - Urban Sociology (COM) Credits: 3
- LA 252 - Site Planning Credits: 4
- LA 342 - City Planning Credits: 3
- PHIL 454 - Environmental Ethics (COM) Credits: 3
- PLAN 471 - Principles of State, Regional and Community Planning Credits: 3
- PLAN 472 - 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

Select from the following. Credits: 15

- BLAW 433 - Real Estate (COM) Credits: 3
- FCSE 332 - Housing in Family & Consumer Sciences Education Credits: 3
- GEOG 351 - Economic Geography 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

Select from the following. Credits: 15

- AGECE/BLAW 462 - Environmental Law Credits: 3
- AIS 430 - Indigenous Relationships to the Environment Credits: 3
- CEE 225 - Principles of Environmental Science and Engineering Credits: 3
- CM 460 - Sustainable Building Systems Concepts and Analysis Credits: 3
- ECON 472 - Resource and Environmental Economics (COM) Credits: 3
- EES 275 - Introduction to Environmental Science Credits: 3
- GEOG 415 - Environmental Geography and Sustainability Credits: 3
- LA 331 - Landscape Architecture Site Engineering Credits: 3
- NRM 221 - Introduction to Conservation Planning and Management Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- SOC 245 - Environment and Society Credits: 3

Government Emphasis

Select from the following. Credits: 15

- BLAW 433 - Real Estate (COM) Credits: 3
- CEE 363 - Highway and Traffic Engineering Credits: 3
- ECON 433 - Public Finance (COM) Credits: 3
- GEOG 365 - Land Use and Planning Credits: 3
- ID 318 - Building Codes and Regulations Credits: 3
- LA 351 - Community and Housing Design Credits: 4
- LMNO 301 - Fundraising and Resource Development Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- POLS 320 - Public Administration (COM) Credits: 3
- POLS 337 - Constitutional Law: Government Powers Credits: 3
- POLS 388 - Research Methods 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
Major Requirements	46 Credit Hours
Electives**	44 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and Department Requirements.

**Taken as needed to complete any additional degree requirements.

Computer Science (B.S.)

Program Coordinator/Contact

Sungyong Jung, Department Head
McComish 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; software engineer, full-stack developer, machine learning engineer, network designer, cloud engineer, database administrator, data analyst, 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, scientific computation, and probability and statistics are also taken. Computer Science students are required to study all aspects of computing, including algorithms and theory, software, and hardware.

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 focus area 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

Accreditation

The B.S. program in Computer Science is accredited by the Computing Accreditation Commission of ABET, under the General Criteria and the Program Criteria for Computer Science and Similarly Named Computing Programs.

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.

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.

Requirements for Computer Science Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: INFO 102 - Data Ethics (COM) [SGR #3, HSDC] 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, HSDC] Credits: 4
- Goal #6 Natural Sciences: Select one of the following

- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3, PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1, PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3, and PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3, PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1, PHYS 209 - Fundamentals of Physics II (COM) [SGR #6, HSDC] Credits: 3, and PHYS 209L - Fundamentals of Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3, CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3, and CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3, BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1, BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3, and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- CSC 150 - Computer Science I (COM) [HSDC] Credits: 3
- CSC 201 - Introduction to Modern Computing Credits: 2
- 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 317 - Computer Organization and Architecture (COM) Credits: 3
- CSC 346 - Object Oriented Programming Credits: 3
- CSC 445 - Introduction to Theory of Computation (COM) 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 474 - Computer Networks Credits: 3
- CSC 484 - Database Management Systems (COM) Credits: 3
- CSC 3/4XX or SE 3/4XX Technical Electives Credits: 24
- SE 305 - Foundations of Software Engineering Credits: 3
- SE 306 - Software Project Management and Testing Credits: 3

Supporting Coursework

- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- MATH 270 - Computational Linear Algebra Credits: 3
- MATH 316 - Discrete Mathematics (COM) Credits: 3
- MATH 374 - Scientific Computation I Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

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	71 Credit Hours
Supporting Coursework	16 Credit Hours
Electives**	0 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Concrete Industry Management (B.S.)

Program Coordinator/Contact

Tim Hostettler, Program Director
Department of Construction and Concrete Industry 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.

Course Delivery Format

This program is available at the main campus in Brookings or online. Course content is delivered in classroom, laboratory, and field based settings. Online students completing CIM 210L and CIM 440L will be required to complete an on-campus component for each respective course.

Requirements for Concrete Industry Management Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SPAN 101 - Introductory Spanish I (COM) [SGR #4, HSDC] Credits: 4 and SPAN 102 - Introductory Spanish II (COM) [SGR #4, HSDC] Credits: 4
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences: CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3, CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1, and SGR #6 Electives Credits: 3

Major Requirements

- CIM 101 - Introduction to Concrete Industry Management Credits: 2
- CIM 120 - Introduction to Industrial Safety Credits: 3
- CIM 125 - Plans and Specifications Credits: 2
- CIM 210 - Fundamentals of Concrete: Properties and Testing Credits: 3
- CIM 210L - Fundamentals of Concrete: Properties and Testing Lab Credits: 1
- 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: 2
- CIM 440 - Advanced Concrete Materials Credits: 3
- CIM 440L - Advanced Concrete Materials Lab Credits: 1
- CIM 471 - Capstone Experience Credits: 3
- CIM 480 - Industrial Sales and Marketing Credits: 3
- CIM 494 - Internship (COM) Credits: 1-3 (3 credits required)
- CM 130 - Management Tools and Analysis Credits: 3
- CM 232 - Cost Estimating Credits: 3
- CM 400 - Risk Management and Construction Safety Credits: 3 or GE 425 - Occupational Safety and Health Management Credits: 3
- CM 443 - Construction Planning and Scheduling Credits: 3
- CM 460 - Sustainable Building Systems Concepts and Analysis Credits: 3
- CM 473 - Construction Law and Contracts Credits: 3
- CM, CEE, or MNET Electives 200-level or above Credits: 6
- CM, CEE, MNET, OM, ACCT, ADV, BADM, BLAW, MKTG, MGMT, FIN, or HRM Electives 200-level or above Credits: 6

Supporting Coursework

- GE 101 - Introduction to Engineering and Technical Professions [HSDC] Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Select one of the following

Management Minor

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3

Select from the following

Select twelve credits from the following list. Credits: 12

- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- ACCT 320 - Cost Accounting (COM) Credits: 3
- BADM 457 - Business Ethics (COM) Credits: 3
- CSC/ MGMT 325 - Management Information Systems (COM) Credits: 3
- DSCI/ ECON 453 - Risk Management - Personal and Business Credits: 3
- FIN 310 - Business Finance (COM) Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3
- MGMT 464 - Organizational Behavior (COM) Credits: 3
- OM 363 - Introduction to Supply Chain Management Credits: 3
- OM 415 - Logistics and Transportation Management Credits: 3

Marketing Minor

- ADV 370 - Advertising Principles (COM) Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3
- MKTG 476 - Marketing Research (COM) Credits: 3

Select from the following

Select nine credits from the following list. Credits: 9

- ADV 314 - Digital Promotions Credits: 3
- ADV 476 - Global and Multicultural Advertising Credits: 3
- CA 230 - Consumer Engagement Credits: 3
- FSRM 462 - Retail Management Credits: 3
- HMGT 482 - Hospitality Marketing Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3
- MKTG 474 - Personal Selling (COM) Credits: 3
- MKTG 475 - Consumer Behavior (COM) Credits: 3
- PUBR 243 - Public Relations Principles (COM) Credits: 3
- RECR 411 - Sports Marketing (COM) Credits: 3

Total Required Credits: 120

Summary of Program Requirements

Bachelor of Science

System General Education Requirements*	33 Credit Hours
Major Requirements	65 Credit Hours
Supporting Coursework	22 Credit Hours
Electives**	0 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Conservation Planning and Park Management (B.S.)

Program Coordinator/Contact

Jennifer Zavaleta Cheek, Assistant Professor
Department of Natural Resource Management
Edgar S. McFadden Biostress Laboratory, Room 255C
605-688-4912

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.

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Elective Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences: BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3, BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3, and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3
and GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1
or GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3
and GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1
- GEOG 365 - Land Use and Planning Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- HO 339 - Arboriculture and Urban Forestry Credits: 3
or BOT 303 - Forest Ecology and Management Credits: 2
and BOT 303L - Forest Ecology and Management Lab Credits: 1
- 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 - Natural Resource Statistics Credits: 2
and NRM 282L - Natural Resource Statistics Lab Credits: 1
or STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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
- NRM 485 - Integrated Natural Resource Management Credits: 3
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- RANG 321 - Wildland Ecosystems Credits: 3
- RANG 374 - Habitat Conservation and Management Credits: 3
- RANG 374L - Habitat Conservation and Management Lab Credits: 1
- WL 430 - Human Dimensions in Natural Resource Management Credits: 3
- EES 430 - Biological Invasions Credits: 3
- GEOG 473 - GIS: Data Creation and Integration (COM) Credits: 2
- GEOG 473L - GIS: Data Creation and Integration Lab (COM) Credits: 1
- GEOG 474 - GIS: Vector and Raster Modeling Credits: 2
- GEOG 474L - GIS: Vector and Raster Modeling Lab Credits: 1
- GEOG 475 - GIS Applications Credits: 2
- GEOG 475L - GIS Applications Lab Credits: 1
- GEOG 483 - UAS Remote Sensing Credits: 2
- GEOG 483L - UAS Remote Sensing Lab Credits: 1
- 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 - Environmental Microbiology Credits: 3
- MICR 310L - Environmental Microbiology Lab Credits: 1
- MICR 421 - Soil Microbiology Credits: 2
- MICR 421L - Soil Microbiology Lab Credits: 1
- NRM 200 - Animal Diversity Credits: 2
- NRM 200L - Animal Diversity Lab Credits: 1
- NRM 350 - Conservation and Management of Endangered and Nongame Wildlife Credits: 3
- NRM 410 - Conservation Biology (COM) Credits: 3
- NRM 450 - Freshwater Monitoring and Assessment Credits: 2
- NRM 450L - Freshwater Monitoring and Assessment Lab Credits: 1
- NRM 464 - Ecosystem Ecology Credits: 3
- NRM 466 - Environmental Toxicology and Contaminants (COM) Credits: 3
- NRM 482 - Natural Resource Management Biometry Credits: 2
- NRM 482L - Natural Resource Management Biometry Lab Credits: 1
- NRM 494 - Internship (COM) Credits: 1-12 (1 credit required)
- PRAG 340 - Climate Risk Management with Precision Agriculture Credits: 3
- PS 210 - Turf and Weed Management in Horticulture Credits: 2
- PS 210L - Turf and Weed Management in Horticulture Lab Credits: 1
- RANG 205 - Introduction to Range Management [SGR #6, HSDC] Credits: 2
- RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1
- RANG 210L - Range Plant Identification Lab Credits: 2
- RANG 421 - Grassland Fire Ecology Credits: 3
- RANG 425 - Rangeland Assessment and Monitoring Credits: 2
- RANG 425L - Rangeland Assessment and Monitoring Lab Credits: 1
- RECR 415 - Sport and Recreation Facility Management Credits: 3
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- WL 355 - Mammalogy (COM) Credits: 3
- WL 355L - Mammalogy Lab (COM) Credits: 1
- WL 363 - Ornithology (COM) Credits: 3
- WL 363L - Ornithology Lab (COM) Credits: 1
- WL 367 - Ichthyology Credits: 2
- WL 367L - Ichthyology Lab Credits: 1
- WL 411 - Principles of Wildlife Management Credits: 2
- WL 411L - Principles of Wildlife Management Lab Credits: 1
- WL 412 - Principles of Fisheries Management Credits: 2
- WL 412L - Principles of Fisheries Management Lab Credits: 1
- WL 415 - Upland Game Ecology and Management Credits: 2
- WL 415L - Upland Game Ecology and Management Lab Credits: 1
- WL 417 - Large Mammal Ecology and Management Credits: 2
- WL 417L - Large Mammal Ecology and Management Lab Credits: 1
- WL 419 - Waterfowl Ecology and Management Credits: 2
- WL 419L - Waterfowl Ecology and Management Lab Credits: 1
- WL 425 - Wildlife Disease Credits: 2
- WL 425L - Wildlife Disease Lab Credits: 1

Major Electives

Select 21 credits from the following. Credits: 21

- BIOL 373 - Evolution (COM) Credits: 3
- BOT 301 - Plant Systematics (COM) Credits: 2
- BOT 301L - Plant Systematics Lab (COM) Credits: 1
- BOT 303 - Forest Ecology and Management Credits: 2
- BOT 303L - Forest Ecology and Management Lab Credits: 1
- BOT 405 - Grasses and Grasslike Plants Credits: 1
- BOT 405L - Grasses and Grasslike Plants Lab Credits: 2
- BOT/RANG 419 - Plant Ecology (COM) Credits: 2
- BOT/RANG 419L - Plant Ecology Lab (COM) Credits: 1
- CEE 434 - Hydrology Credits: 3

- WL 427 - Limnology and Stream Ecology Credits: 2
- WL 427L - Limnology and Stream Ecology Lab Credits: 1
- WL 431 - Advanced Fisheries Management Credits: 2
- WL 431L - Advanced Fisheries Management Lab Credits: 1
- WL 434 - Herpetology (COM) Credits: 2
- WL 434L - Herpetology Lab (COM) 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*	32 Credit Hours
Major Requirements	73 Credit Hours
Electives**	15 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Conservation Planning and Park Management (B.S.) - Park Administration and Management Specialization

Program Coordinator/Contact

Jennifer Zavaleta Cheek, Assistant Professor
Department of Natural Resource Management
Edgar S. McFadden Biostress Laboratory, Room 255C
605-688-4912

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.

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Elective Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences: BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3, BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3, and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- BOT 301 - Plant Systematics (COM) Credits: 2
and BOT 301L - Plant Systematics Lab (COM) Credits: 1
or BOT 405 - Grasses and Grasslike Plants Credits: 1
and BOT 405L - Grasses and Grasslike Plants Lab Credits: 2
or BOT/RANG 419 - Plant Ecology (COM) Credits: 2
and BOT/RANG 419L - Plant Ecology Lab (COM) Credits: 1
- GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3
and GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1

or GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3
and GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1

- GEOG 365 - Land Use and Planning Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- HO 339 - Arboriculture and Urban Forestry Credits: 3
or BOT 303 - Forest Ecology and Management Credits: 2
and BOT 303L - Forest Ecology and Management Lab Credits: 1
- 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 - Natural Resource Statistics Credits: 2
and NRM 282L - Natural Resource Statistics Lab Credits: 1
or STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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
- NRM 485 - Integrated Natural Resource Management Credits: 3
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- RANG 321 - Wildland Ecosystems Credits: 3
- RANG 374 - Habitat Conservation and Management Credits: 3
- RANG 374L - Habitat Conservation and Management Lab Credits: 1
- RECR 415 - Sport and Recreation Facility 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

- 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
- 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*	32 Credit Hours
Major Requirements	70 Credit Hours
Electives**	18 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Construction Management (B.S.)

Program Coordinator/Contact

Julian Kang, Department Head
Department of Construction and Concrete Industry 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.

Accreditation

The Construction Management (BS) program is accredited by the Applied and Natural Science Accreditation Commission of ABET, under the General Criteria and the Construction Management and Similarly Named Programs Criteria.

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.

Academic Requirements

A cumulative GPA of 2.25 is required to graduate with a Bachelor of Science in Construction Management.

Requirements for Construction Management Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 3 and ENGL 277 - Technical Writing in Engineering [SGR #1, HSDC] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 120 - Trigonometry (COM) [SGR #5, HSDC] Credits: 3 or MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences:
 - PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3 and PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1 or PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3 and PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- CM 124 - Construction Graphics Credits: 3
- CM 130 - Management Tools and Analysis Credits: 3
- CM 210 - Construction Surveying Credits: 3
- CM 210L - Construction Surveying Lab Credits: 1
- 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 - Construction Soil Mechanics Credits: 3
- CM 320L - Construction Soil Mechanics Lab Credits: 1
- 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 - Risk Management and Construction Safety Credits: 3
- CM 410 - Construction Project Management and Supervision Credits: 3
- CM 443 - Construction Planning and Scheduling Credits: 3
- CM 471 - Capstone Experience Credits: 2
- CM 473 - Construction Law and Contracts Credits: 3
- CM 490 - Seminar (COM) Credits: 1
- Technical Electives Credits: 9

Supporting Coursework

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- CSC 325 - Management Information Systems (COM) Credits: 3
- GE 101 - Introduction to Engineering and Technical Professions [HSDC] Credits: 1
- GE 231 - Technology, Society, and Ethics Credits: 3

- GE 241 - Applied Mechanics Credits: 3
- GE 385 - Introduction to Systems Engineering and Management Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3 or LDR 435 - Organizational Leadership and Team Development Credits: 3
- MNET 460 - Engineering Economic Analysis Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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*	32-34 Credit Hours
Major Requirements	57 Credit Hours
Supporting Coursework	28 Credit Hours
Electives**	1-3 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Construction Technology (A.S.)

Program Coordinator/Contact

Julian Kang, Department Head
Department of Construction and Concrete Industry 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 Construction Management (B.S.) and Concrete Industry Management (B.S.).

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SPAN 101 - Introductory Spanish I (COM) [SGR #4, HSDC] Credits: 4
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences: CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- CM 130 - Management Tools and Analysis Credits: 3
- CM 232 - Cost Estimating Credits: 3
- GE 101 - Introduction to Engineering and Technical Professions [HSDC] Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Select from the following

Select 17-18 credits from the following list. Credits: 17-18

- CIM 101 - Introduction to Concrete Industry Management Credits: 2
- CIM 120 - Introduction to Industrial Safety Credits: 3
- CIM 125 - Plans and Specifications Credits: 2
- CIM 210 - Fundamentals of Concrete: Properties and Testing Credits: 3
- CIM 210L - Fundamentals of Concrete: Properties and Testing Lab Credits: 1
- CIM 230 - Concrete Construction Systems Credits: 3
- SPAN 102 - Introductory Spanish II (COM) [SGR #4, HSDC] Credits: 4
- CM 124 - Construction Graphics Credits: 3
- CM 210 - Construction Surveying Credits: 3
- CM 210L - Construction Surveying Lab Credits: 1
- CM 216 - Construction Methods and Materials Credits: 3
- CM 216L - Construction Methods and Materials Lab Credits: 1
- CM 333 - Mechanical, Electrical, Plumbing Systems 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*	26 Credit Hours
Major Requirements	30-31 Credit Hours
Electives**	3-4 Credit Hours

*System General Education Requirements for students pursuing an associate degree shall include a minimum of 24 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**Taken as needed to complete any additional degree requirements.

Consumer Behavior (B.S.)

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
605-688-4141

Program Information

Students who major in Consumer Behavior will be well positioned to play a critical role in today's business environment. Through a comprehensive curriculum of courses in marketing, economics, and consumer analysis, students will study how consumers make decisions about their wants of, needs for, and purchases of goods and services.

Accreditation

The Ness School of Management and Economics is accredited by the Association to Advance Collegiate Schools of Business International (AACSB).

Course Delivery Format

The program offers courses on campus and online.

Academic Requirements

Students must earn a grade of "C" or better in BADM 485 - Strategic Management Credits: 3, FIN 310 - Business Finance (COM) Credits: 3, HRM 460 - Human Resource Management (COM) Credits: 3, and MGMT 360 - Organization and Management (COM) Credits: 3.

If a student chooses to double major in two or more majors offered through the Ness School of Management and Economics, each major needs to have at least 15 credits that are distinct from the other major(s).

Requirements for Consumer Behavior Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3

- Goal #3 Social Sciences: ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: 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: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.
- One declared minor outside of the major discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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 and Social Sciences for additional information about 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) [HSDC] Credits: 3
- BADM 485 - Strategic Management Credits: 3 (Capstone)
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- CA 230 - Consumer Engagement Credits: 3
- CA 289 - Consumers in the Market Credits: 3
- CA 412 - Consumer Policy Analysis Credits: 3
- CA 430 - Consumer Decision Making Credits: 3
- ECON 119 - First Year Seminar Credits: 1
- ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] 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
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3
- MKTG 475 - Consumer Behavior (COM) Credits: 3
- MKTG 476 - Marketing Research (COM) Credits: 3
- OM 363 - Introduction to Supply Chain Management Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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*	27 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	65 Credit Hours
Electives**	18 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

Criminology (B.A./B.S.)

Program Coordinator/Contact

Katie Derrick, Professional Advisor
School of Psychology, Sociology and Rural Studies
Psychology, Sociology and Rural Studies 110
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.

Course Delivery Format

Coursework for the program is delivered in multiple formats including face-to-face lecture and online courses.

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.

Requirements for Criminology 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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and 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, HSDC] Credits: 3
- CJUS 431 - Criminal Law (COM) Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3
- SOC 283 - Working with Diverse Populations Credits: 3 or SOC 350 - Race and Ethnic Relations (COM) 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 - Social Policy (COM) Credits: 3
- SOC 460 - Advanced Criminology (COM) Credits: 3 (Capstone)

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 - Drugs and Society Credits: 3
- CJUS 492 - Topics (COM) Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- SOC 204 - Introduction to Corrections (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 440 - Urban Sociology (COM) Credits: 3
- SOC 455 - Juvenile Delinquency (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**	6+ Credit Hours
Major Requirements	39 Credit Hours
Electives***	45 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	39 Credit Hours
Electives***	48 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Dairy Manufacturing (B.S.)

Program Coordinator/Contact

Londa Nwadike, 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.

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 or ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5
- Goal #6 Natural Sciences:
 - BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2 and BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1
 - or BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1
 - or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AGECE, ECON, BADM, BLAW, MGMT, MKTG, FIN, DSCI, HRM, STAT, ACCT or ENTR Electives Credits: 3
- AST 443 - Food Processing and Engineering Fundamentals Credits: 2
- AST 443L - Food Processing and Engineering Fundamentals Lab Credits: 1
- BIOL 103 - Biology Survey II (COM) [SGR #6, HSDC] Credits: 2 and BIOL 103L - Biology Survey II Lab (COM) [SGR #6, HSDC] Credits: 1 or BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4
- CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1
- DS 119 - Opportunities in Dairy and Food Science Credits: 1
- DS 120 - Survey of Dairy and Food Science Industries Credits: 1 or VET 120 - Introduction to Veterinary Medicine Credits: 1
- DS 130 - Introduction to Dairy Science Credits: 2
- DS 130L - Introduction to Dairy Science Lab Credits: 1
- DS 202 - Dairy Products Judging Credits: 1
- DS 301 - Dairy Microbiology Credits: 2
- DS 301L - Dairy Microbiology Lab Credits: 2
- DS 400 - Dairy Chemistry and Analysis Credits: 3
- DS 400L - Dairy Chemistry and Analysis Lab Credits: 2
- DS 421 - Dairy Plant Management Credits: 3
- DS 421L - Dairy Plant Management Lab Credits: 1
- DS 460 - Dairy Product Processing I Credits: 4
- DS 460L - Dairy Product Processing I Lab Credits: 1
- DS 461 - Dairy Product Processing II Credits: 4
- DS 461L - Dairy Product Processing II Lab Credits: 1
- DS 490 - Seminar (COM) Credits: 1
- DS 494 - Internship (COM) Credits: 3-12 (3 credits required) or DS 498 - Research (COM) Credits: 1-6 (3 credits required)
- DS 496 - Field Experience Credits: 3-12 (3 credits required)
- FS Electives Credits: 3
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1

- MICR 311 - Food Microbiology Credits: 2
- MICR 311L - Food Microbiology Lab Credits: 2
- PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3 and PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1 or PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3 and PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] 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*	31-34 Credit Hours
Major Requirements	68-69 Credit Hours
Electives**	17-21 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements

Dairy Manufacturing (B.S.) - Microbiology Specialization

Program Coordinator/Contact

Londa Nwadike, 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.

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 or ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5
- Goal #6 Natural Sciences: CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3, CHEM 112L - General Chemistry I Lab (COM) [SGR

#6, HSDC] Credits: 1, CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3, and CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AST 443 - Food Processing and Engineering Fundamentals Credits: 2
- AST 443L - Food Processing and Engineering Fundamentals Lab Credits: 1
- BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2 and BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1 or BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 (preferred) and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 103 - Biology Survey II (COM) [SGR #6, HSDC] Credits: 2 and BIOL 103L - Biology Survey II Lab (COM) [SGR #6, HSDC] Credits: 1 or BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 (preferred) and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 202 - Genetics and Molecular Biology Credits: 3
- BIOL 202L - Genetics and Molecular Biology Lab Credits: 1
- BIOL 204 - Introduction to Cell Biology (COM) Credits: 3
- BIOL 204L - Introduction to Cell Biology Lab (COM) Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods - Biochemistry Credits: 1
- DS 119 - Opportunities in Dairy and Food Science Credits: 1
- DS 120 - Survey of Dairy and Food Science Industries Credits: 1 or VET 120 - Introduction to Veterinary Medicine Credits: 1
- DS 130 - Introduction to Dairy Science Credits: 2
- DS 130L - Introduction to Dairy Science Lab Credits: 1
- DS 202 - Dairy Products Judging Credits: 1
- DS 301 - Dairy Microbiology Credits: 2
- DS 301L - Dairy Microbiology Lab Credits: 2
- DS 400 - Dairy Chemistry and Analysis Credits: 3
- DS 400L - Dairy Chemistry and Analysis Lab Credits: 2
- DS 421 - Dairy Plant Management Credits: 3
- DS 421L - Dairy Plant Management Lab Credits: 1
- DS 460 - Dairy Product Processing I Credits: 4
- DS 460L - Dairy Product Processing I Lab Credits: 1
- DS 461 - Dairy Product Processing II Credits: 4
- DS 461L - Dairy Product Processing II Lab Credits: 1
- DS 490 - Seminar (COM) Credits: 1
- DS 496 - Field Experience Credits: 3-12 (3 credits required)
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
- MICR 310 - Environmental Microbiology Credits: 3
- MICR 310L - Environmental Microbiology Lab Credits: 1
- MICR 311 - Food Microbiology Credits: 2
- MICR 311L - Food Microbiology Lab Credits: 2
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MICR 448 - Molecular and Microbial Genetics Credits: 4
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Total Required Credits: 120

Summary of Program Requirements

Bachelor of Science

System General Education Requirements*	32-34 Credit Hours
Major Requirements	88-90 Credit Hours
Electives**	0 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements

Dairy Production (B.S.)

Program Coordinator/Contact

Londa Nwadike, 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 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.

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 or ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5
- Goal #6 Natural Sciences:
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
 - BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2 and BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1 or BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- AGECE 271 - Farm and Ranch Management Credits: 3
- AS 219 - Principles of Animal Nutrition Credits: 3
- AS 319 - Livestock Feeds and Feeding Credits: 2
- AS 319L - Livestock Feeds and Feeding Lab Credits: 1
- AS 332 - Livestock Breeding and Genetics Credits: 4 or BIOL 371 - Genetics (COM) Credits: 3
- AS 333 - Livestock Reproduction Credits: 2
- AS 333L - Livestock Reproduction Lab Credits: 1
- AST 463 - Agricultural Waste Management Credits: 3
- BIOL 103 - Biology Survey II (COM) [SGR #6, HSDC] Credits: 2 and BIOL 103L - Biology Survey II Lab (COM) [SGR #6, HSDC] Credits: 1 or BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3

and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1

- CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4
- CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1
- DS 119 - Opportunities in Dairy and Food Science Credits: 1
- DS 120 - Survey of Dairy and Food Science Industries Credits: 1 or VET 120 - Introduction to Veterinary Medicine Credits: 1
- DS 130 - Introduction to Dairy Science Credits: 2
- DS 130L - Introduction to Dairy Science Lab Credits: 1
- DS 202 - Dairy Products Judging Credits: 1
- DS 301 - Dairy Microbiology Credits: 2
- DS 301L - Dairy Microbiology Lab Credits: 2
- DS 311 - Dairy Cattle Judging Credits: 2
- DS 312 - Dairy Cattle Breeding and Evaluation Credits: 2
- DS 312L - Dairy Cattle Breeding and Evaluation Lab Credits: 2
- DS 413 - Physiology of Lactation Credits: 3
- DS 413L - Physiology of Lactation Lab Credits: 1
- DS 480 - Dairy Farm Operations I Credits: 3
- DS 480L - Dairy Farm Operations I Lab Credits: 1
- DS 481 - Dairy Farm Operations II Credits: 3
- DS 481L - Dairy Farm Operations II Lab Credits: 1
- DS 490 - Seminar (COM) Credits: 1
- DS 494 - Internship (COM) Credits: 3-12 (3 credits required)
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3 and PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1 or PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3 and PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PS 103 - Crop Production Credits: 2
- PS 103L - Crop Production Lab Credits: 1
- PS 213 - Soils [SGR #6, HSDC] Credits: 2 and PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1 or PS 313 - Forage Crop and Pasture Management Credits: 3
- VET 223 - Anatomy and Physiology of Domestic Animals Credits: 3
- VET 223L - Anatomy and Physiology of Domestic Animals Lab Credits: 1
- 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
Major Requirements	79-81 Credit Hours
Electives**	5-10 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements

Data Science (A.S.)

Program Coordinator/Contact

Eun Heui Kim, Department Head
Donna Flint, Assistant 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 the B.S. in Data Science or the B.S. in Mathematics with Data Science Specialization.

Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

Academic Requirements

A grade of "C" or above is required in all MATH and STAT courses.

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Elective Credits: 3
- Goal #5 Mathematics: MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 (Option 1) (Major Requirement) or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4 (Option 2) (Major Requirement)
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 3

Major Requirements

- STAT 101 - Introduction to Data Science Credits: 3
- MATH 270 - Computational Linear Algebra Credits: 3
- STAT 410 - SAS Programming Credits: 3
- STAT 415 - R Programming Credits: 3

Select one of the following

Option 1

- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3 or STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
- STAT 441 - Statistical Methods II Credits: 3
- STAT 442 - Exploratory and Cloud-Based Data Analysis Credits: 3

Option 2

- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- STAT 382 - Probability Credits: 3
- STAT 482 - Mathematical Statistics Credits: 3

Supporting Coursework

- CSC 150 - Computer Science I (COM) [HSDC] Credits: 3 or INFO 101 - Introduction to Informatics [HSDC] 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*	21 Credit Hours
Major Requirements	26 Credit Hours
Supporting Coursework	3 Credit Hours
Electives**	10 Credit Hours

*System General Education Requirements for students pursuing an associate degree shall include a minimum of 24 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**Taken as needed to complete any additional degree requirements.

Data Science (B.S.)

Program Coordinator/Contact

Eun Heui Kim, Department Head
Donna Flint, Assistant 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.

Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

Academic Requirements

A grade of "C" or above is required in all MATH and STAT courses.

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4 (Major Requirement)
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

Major Requirements

- CSS 401 - Data Science Capstone Credits: 3
- MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- MATH 198 - Mathematics Professions 1 (COM) Credits: 1
- MATH 225 - Calculus III (COM) [SGR #5, HSDC] Credits: 4
- MATH 270 - Computational Linear Algebra Credits: 3
- MATH 316 - Discrete Mathematics (COM) Credits: 3
- MATH 374 - Scientific Computation I Credits: 3
- 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
- CSC 447 - Artificial Intelligence (COM) Credits: 3
- MATH 321 - Differential Equations (COM) Credits: 3
- MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3
- MATH 471 - Numerical Analysis I (COM) Credits: 3
- MATH 475 - Operations Research (COM) Credits: 3
- STAT 101 - Introduction to Data Science Credits: 3
- STAT 383 - Geospatial Data Analysis Credits: 3
- STAT 410 - SAS Programming Credits: 3
- STAT 415 - R Programming Credits: 3
- STAT 441 - Statistical Methods II Credits: 3
- STAT 442 - Exploratory and Cloud-Based Data Analysis Credits: 3
- STAT 445 - Nonparametric Statistics (COM) Credits: 3
- STAT 451 - Predictive Analytics I Credits: 3
- STAT 453 - Applied Bayesian Statistics Credits: 3
- STAT 454 - Statistical Machine Learning and AI Credits: 3

- STAT 460 - Time Series Analysis (COM) Credits: 3

Supporting Coursework

- CSC 150 - Computer Science I (COM) [HSDC] Credits: 3
or INFO 101 - Introduction to Informatics [HSDC] 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*	27 Credit Hours
Major Requirements	55 Credit Hours
Supporting Coursework	3 Credit Hours
Electives**	35 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Early Childhood Education - Birth to Grade 3 (B.S.)

Program Coordinator/Contact

Heidi Sackreiter, Assistant Professor/ECE Coordinator
School of Education, Counseling and Human Development
Pugsley Hall 141
605-688-5039

Program Information

This program prepares professionals to 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. Completion of two student teaching experiences, one in a Pre-K or Kindergarten classroom and another in a first, second, or third grade classroom are required.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

National Association for the Education of Young Children (NAEYC) - SDSU Lab School only

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, EPSY, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, EPSY, or SPED prefixes).

- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, EPSY, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.
- Content methods instructor recommendation is required.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, EPSY, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Requirements for Early Childhood Education - Birth to Grade 3 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 Electives Credits: 3
- Goal #3 Social Sciences: HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: ENGL 240 - Juvenile Literature [SGR #4, HSDC] Credits: 3 or SGR #4 Modern Language Elective and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Electives Credits: 3
- Goal #6 Natural Sciences:
 - GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3 and GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1
 - GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3 and GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1
 - BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2 and BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1

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, HSDC] Credits: 3
- ECE 196 - Field Experience (COM) Credits: 1-3 (1 credit required)
- ECE 240 - Child Development I: Prenatal to 2 Credits: 3
- ECE 241 - Child Development II: 3 to 8 Years Credits: 3
- ECE 320 - Pedagogy and Curriculum Credits: 3
- ECE 320L - Pedagogy and Curriculum Lab Credits: 1
- ECE 321 - Learner Centered Assessment Credits: 3
- ECE 322 - Arts, Health, and Technology in ECE Credits: 3
- ECE 325 - Inclusion and the Diverse Learner Credits: 3
- ECE 355 - Administration and Supervision of Early Childhood Setting Credits: 3
- ECE 360 - Play and Inquiry Credits: 3
- ECE 360L - Play and Inquiry Lab Credits: 1
- ECE 375 - Guidance in ECE Credits: 3
- ECE 400 - Science, Social Studies, and Math in ECE Credits: 3
- ECE 412 - Kindergarten Education (COM) Credits: 2-3 (2 credits required)
- ECE 441 - Professional Issues in ECE Credits: 2
- ECE 466 - Literacy in ECE Credits: 3
- ECE 470 - Early Childhood Inclusion Strategies Credits: 3

- ECE 471 - Foundations of Reading Credits: 3
- ECE 488 - Student Teaching (COM) Credits: 1-12 (6 credits required Pre-K and 11 credits required K-3)
- ECE 495 - Practicum (COM) Credits: 1-12 (2 credits required)
- EDFN 102 - Introduction to Education (COM) Credits: 3
- EDFN 461 - Cultural and Psychological Perspectives in the Acquisition of English as a Second Language Credits: 3
- MATH 245 - Mathematics for Primary Grades I Credits: 3
- MATH 345 - Mathematics for Primary Grades II Credits: 3
- PHYS 216 - Physical Science for Early Childhood Credits: 2
- PHYS 216L - Physical Science for Early Childhood Lab Credits: 1
- SPED 100 - Introduction to Persons with Exceptionalities (COM) 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 with their academic advisor for registering for the Praxis exams.
- A pre-graduate check is required 2 semesters before graduation semester. At the beginning of graduation semester, a graduation application must be completed.
- 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	85 Credit Hours
Electives**	0 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
 **Taken as needed to complete any additional degree requirements.

Ecology and Environmental Science (B.S.)

Program Coordinator/Contact

Lan Xu, Professor
 Department of Natural Resource Management
 Edgar S. McFadden Biostress Laboratory, Room 142C
 605-688-5060

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.

Certification and Licensure

Ecology students within this program may gain Ecologist in Training certification through the Ecological Society of America upon completion of degree requirements. Students may also select courses to meet knowledge requirements for Certified Ecological Restoration Practitioner-in-Training through the Society for Ecological Restoration.

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.

Academic Requirements

Students must achieve a grade of "C" or better in all major core courses.

Requirements for Ecology and Environmental Science Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or higher
- Goal #6 Natural Sciences:
 - BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1 or BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits: 2 and BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL/ PHIL 383 - Bioethics (COM) Credits: 4 or PHIL 454 - Environmental Ethics (COM) Credits: 3
- CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4 and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3 and CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- EES 275 - Introduction to Environmental Science Credits: 3
- EES 425 - Disturbance and Restoration Ecology Credits: 3 or EES 430 - Biological Invasions Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- 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 - Natural Resource Statistics Credits: 2 and NRM 282L - Natural Resource Statistics Lab Credits: 1 or STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3
- NRM 464 - Ecosystem Ecology Credits: 3 or WL 427 - Limnology and Stream Ecology Credits: 2 and WL 427L - Limnology and Stream Ecology Lab Credits: 1
- NRM 485 - Integrated Natural Resource Management Credits: 3
- PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3 and PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1 or PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3 and PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- PS 243 - Principles of Geology [SGR #6, HSDC] Credits: 3
- BIOL 202L - Genetics and Molecular Biology Lab Credits: 1
- BIOL 371 - Genetics (COM) Credits: 3
- BIOL 373 - Evolution (COM) Credits: 3
- BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits: 2
- BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1
- BOT 301 - Plant Systematics (COM) Credits: 2
- BOT 301L - Plant Systematics Lab (COM) Credits: 1
- BOT 303 - Forest Ecology and Management Credits: 2
- BOT 303L - Forest Ecology and Management Lab Credits: 1
- BOT 327 - Plant Physiology Credits: 3
- BOT 327L - Plant Physiology Lab Credits: 1
- BOT 405 - Grasses and Grasslike Plants Credits: 1
- BOT 405L - Grasses and Grasslike Plants Lab Credits: 2
- BOT 415 - Aquatic Plants Credits: 1
- BOT 415L - Aquatic Plants Lab Credits: 2
- BOT/ RANG 419 - Plant Ecology (COM) Credits: 2
- BOT/ RANG 419L - Plant Ecology Lab (COM) Credits: 1
- CEE 323 - Water Supply and Wastewater Engineering Credits: 3 +
- CEE 422 - Environmental Engineering Instrumentation Credits: 2 +
- CEE 422L - Environmental Engineering Instrumentation Lab Credits: 1
- CEE 434 - Hydrology Credits: 3 +
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3 +
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 332 - Analytical Chemistry (COM) Credits: 3
- CHEM 332L - Analytical Chemistry Lab (COM) Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3 +
- CHEM 482 - Environmental Chemistry (COM) Credits: 3-4 +
- EES 430 - Biological Invasions 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 - Research (COM) Credits: 1-4
- GEOG 473 - GIS: Data Creation and Integration (COM) Credits: 2
- GEOG 473L - GIS: Data Creation and Integration Lab (COM) Credits: 1
- GEOG 474 - GIS: Vector and Raster Modeling Credits: 2
- GEOG 474L - GIS: Vector and Raster Modeling Lab Credits: 1
- GEOG 475 - GIS Applications Credits: 2
- GEOG 475L - GIS Applications Lab Credits: 1
- GEOG 483 - UAS Remote Sensing Credits: 2
- GEOG 483L - UAS Remote Sensing Lab Credits: 1
- HSC 443 - Public Health Science Credits: 3
- HSC 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 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
- MICR 310 - Environmental Microbiology Credits: 3 +
- MICR 310L - Environmental Microbiology Lab Credits: 1
- MICR 421 - Soil Microbiology Credits: 2
- MICR 421L - Soil Microbiology Lab Credits: 1
- NRM 350 - Conservation and Management of Endangered and Nongame Wildlife Credits: 3
- NRM 410 - Conservation Biology (COM) Credits: 3
- NRM 450 - Freshwater Monitoring and Assessment Credits: 2
- NRM 450L - Freshwater Monitoring and Assessment Lab Credits: 1
- NRM 466 - Environmental Toxicology and Contaminants (COM) Credits: 3
- NRM 482 - Natural Resource Management Biometry Credits: 2
- NRM 482L - Natural Resource Management Biometry Lab Credits: 1

Major Electives

Select a minimum of 25 credits from the following courses. Maximum of 6 credits at the 200 level in this section. 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 - Genetics and Molecular Biology Credits: 3

- PS 412 - Environmental Soil Chemistry Credits: 3
- PS 462 - Environmental Soil Management Credits: 2
- PS 462L - Environmental Soil Management Lab Credits: 1
- RANG 374 - Habitat Conservation and Management Credits: 3
- RANG 374L - Habitat Conservation and Management Lab Credits: 1
- RANG 425 - Rangeland Assessment and Monitoring Credits: 2
- RANG 425L - Rangeland Assessment and Monitoring Lab Credits: 1
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3 +
- STAT 414 - Basic R Programming Credits: 1 +
- STAT 441 - Statistical Methods II Credits: 3 +
- STAT 445 - Nonparametric Statistics (COM) Credits: 3 +
- WL 355 - Mammalogy (COM) Credits: 3
- WL 355L - Mammalogy Lab (COM) Credits: 1
- WL 363 - Ornithology (COM) Credits: 3
- WL 363L - Ornithology Lab (COM) Credits: 1
- WL 367 - Ichthyology Credits: 2
- WL 367L - Ichthyology Lab Credits: 1
- WL 417 - Large Mammal Ecology and Management Credits: 2 +
- WL 417L - Large Mammal Ecology and Management Lab Credits: 1
- WL 418 - Ecology of Aquatic Invertebrates Credits: 2
- WL 418L - Ecology of Aquatic Invertebrates Lab Credits: 1
- WL 419 - Waterfowl Ecology and Management Credits: 2
- WL 419L - Waterfowl Ecology and Management Lab Credits: 1
- WL 427 - Limnology and Stream Ecology Credits: 2
- WL 427L - Limnology and Stream Ecology Lab Credits: 1
- WL 429 - Ecology of Fishes and Habitat Credits: 3
- WL 430 - Human Dimensions in Natural Resource Management Credits: 3
- WL 434 - Herpetology (COM) Credits: 2
- WL 434L - Herpetology Lab (COM) 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*	32-34 Credit Hours
Major Requirements	74-77 Credit Hours
Electives**	9-14 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Ecology and Environmental Science (B.S.) - Rangeland Ecology and Management Specialization

Program Coordinator/Contact

Lora Perkins, Professor
Department of Natural Resource Management
Edgar S. McFadden Biostress Laboratory, Room 142B
605-688-4997

Program Information

The Rangeland Ecology and Management program 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.

Accreditation

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Elective Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or higher level SGR #5 course
- Goal #6 Natural Sciences:
 - BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1 or BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits: 2 and BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1 or NRM 200 - Animal Diversity Credits: 2 and NRM 200L - Animal Diversity Lab Credits: 1
- CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4 and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3 and CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- EES 425 - Disturbance and Restoration Ecology Credits: 3 or BOT/RANG 419 - Plant Ecology (COM) Credits: 2 and BOT/RANG 419L - Plant Ecology Lab (COM) Credits: 1
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- 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 - Natural Resource Statistics Credits: 2 and NRM 282L - Natural Resource Statistics Lab Credits: 1 or STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3
- NRM 485 - Integrated Natural Resource Management Credits: 3
- PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3 and PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1 or PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3 and PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- RANG 205 - Introduction to Range Management [SGR #6, HSDC] Credits: 2
- RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1
- RANG 210L - Range Plant Identification Lab Credits: 2
- RANG 215 - Introduction to Integrated Ranch Management Credits: 3
- RANG 321 - Wildland Ecosystems Credits: 3
- RANG 374 - Habitat Conservation and Management Credits: 3
- RANG 374L - Habitat Conservation and Management Lab Credits: 1
- RANG 400 - Judging Teams Credits: 1
- RANG 421 - Grassland Fire Ecology Credits: 3
- RANG 425 - Rangeland Assessment and Monitoring Credits: 2
- RANG 425L - Rangeland Assessment and Monitoring Lab Credits: 1

- RANG 491 - 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 - Research (COM) Credits: 1-4 (1 credit required)

Supporting Coursework

- AS 101 - Introduction to Animal Science Credits: 3
- AS 101L - Introduction to Animal Science Lab Credits: 1
- BOT 301 - Plant Systematics (COM) Credits: 2
- BOT 301L - Plant Systematics Lab (COM) Credits: 1
- AS 218 - Survey of Animal Nutrition Credits: 3
- PRAG 410 - Soil Geography and Land Use Interpretation Credits: 2
and PRAG 410L - Soil Geography and Land Use Interpretation Lab Credits: 1
or PS 462 - Environmental Soil Management Credits: 2
and PS 462L - Environmental Soil Management Lab Credits: 1

Select from the following

Select 6 credits from the following courses. Credits: 6

- AGE 271 - Farm and Ranch Management Credits: 3
- BOT 303 - Forest Ecology and Management Credits: 2
- BOT 303L - Forest Ecology and Management Lab Credits: 1
- NRM 350 - Conservation and Management of Endangered and Nongame Wildlife Credits: 3
or NRM 410 - Conservation Biology (COM) Credits: 3
- PS 313 - Forage Crop and Pasture Management Credits: 3
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- WL 411 - Principles of Wildlife Management Credits: 2
- WL 411L - Principles of Wildlife Management Lab 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*	32 Credit Hours
Major Requirements	60-62 Credit Hours
Supporting Coursework	19 Credit Hours
Electives**	7-9 Credit Hour

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Economics (B.A./B.S.)

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
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.

Accreditation

The Ness School of Management and Economics is accredited by the Association to Advance Collegiate Schools of Business International (AACSB).

Course Delivery Format

The program offers courses on campus, with limited online coursework.

Academic Requirements

Students must earn a grade of "C" or better in ECON 485 - Economics Capstone.

If a student chooses to double major in two or more majors offered through the Ness School of Management and Economics, each major needs to have at least 15 credits that are distinct from the other major(s).

Requirements for Economics Major: 120 Credits

Bachelor of Arts

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 or MATH 123 - Calculus I (COM) [SGR #5, HSDC] 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and 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
- AGE 479 - Agricultural Policy Credits: 3
or ECON 413 - Macroeconomic Policy Credits: 3
or ECON 433 - Public Finance (COM) Credits: 3
- AGE, ECON, or FIN Electives (300-level or higher) Credits: 6
- BADM 101 - Survey of Business (COM) [HSDC] Credits: 3
- ECON 119 - First Year Seminar Credits: 1
- ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] 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, HSDC] 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*	28-29 Credit Hours
College of Arts, Humanities and Social Sciences Requirements** 6+	Credit Hours
Major Requirements	50 Credit Hours
Supporting Coursework	6 Credit Hours
Electives***	35-36 Credit Hours

Bachelor of Science

System General Education Requirements*	28-29 Credit Hours
College of Arts, Humanities and Social Sciences Requirements** 10+	Credit Hours
Major Requirements	50 Credit Hours
Supporting Coursework	6 Credit Hours
Electives***	31-32 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Economics (B.S.) - Agricultural Economics Specialization

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
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.

Accreditation

The Ness School of Management and Economics is accredited by the Association to Advance Collegiate Schools of Business International (AACSB).

Course Delivery Format

The program offers courses on campus, with limited online coursework.

Academic Requirements

Students must earn a grade of "C" or better in ECON 485 - Economics Capstone.

If a student chooses to double major in two or more majors offered through the Ness School of Management and Economics, each major needs to have at least 15 credits that are distinct from the other major(s).

Requirements for Economics Major - Agricultural Economics Specialization: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- AGECE 354 - Agricultural Marketing and Prices Credits: 3
- AGECE 479 - Agricultural Policy Credits: 3 or ECON 413 - Macroeconomic Policy Credits: 3 or ECON 433 - Public Finance (COM) Credits: 3
- AGECE Electives (300-level or higher) Credits: 6
- AGECE, ECON, or FIN Electives (300-level or higher) Credits: 6
- BADM 101 - Survey of Business (COM) [HSDC] Credits: 3
- ECON 119 - First Year Seminar Credits: 1
- ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] 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

- AFES 203 - Global Food Systems [SGR #3, HSDC] Credits: 3
- AFES (excluding AFES 203), AS, AST, DS, EES, FS, HO, NRM, PRAG, PS, RANG, VET, WL Credits: 4-6
- ENGL 379 - Technical Communication (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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*	28-29 Credit Hours
Major Requirements	50 Credit Hours
Supporting Coursework	13-15 Credit Hours
Electives**	26-29 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Electrical Engineering (B.S.)

Program Coordinator/Contact

Sungyong Jung, Department Head
McComish 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.

Accreditation

The Electrical Engineering (BS) program is accredited by the Engineering Accreditation Commission of ABET, under the General Criteria and Program Criteria for Electrical, Computer, Communications, Telecommunication(s) and Similarly Named Engineering Programs.

Certification and Licensure

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 online.

Academic Requirements

Students will be admitted into junior level EE courses only after they have completed EE 216, EE 216L, EE 218, EE 218L, EE 222, EE 222L, EE 245, EE 245L, and EE 260 with minimum grades of "C." Students will not be permitted to enroll in subsequent courses for which EE 216, EE 216L, EE 218, EE 218L, EE 222, EE 222L, EE 245, EE 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. 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.

Requirements for Electrical Engineering Major: 130 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences: CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3, CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1, PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3, and PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- EE 101 - Introduction to Electrical Engineering Credits: 1
- EE 101L - Introduction to Electrical Engineering Lab Credits: 1
- EE 216 - Linear Circuits I Credits: 3
- EE 216L - Linear Circuits I Lab Credits: 1
- EE 218 - Linear Circuits II Credits: 3
- EE 218L - Linear Circuits II Lab Credits: 1
- EE 222 - Energy Conversion Credits: 3
- EE 222L - Energy Conversion Lab Credits: 1
- EE 245 - Digital Systems Credits: 3
- EE 245L - Digital Systems Lab Credits: 1
- EE 260 - Electronic Materials and Devices 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 - Electronics I (COM) Credits: 3
- EE 320L - Electronics I Lab (COM) Credits: 1
- EE 321 - Electronics II Credits: 3

- EE 321L - Electronics II Lab Credits: 1
- EE 345 - Computer Organization Credits: 3
- EE 347 - Microcontroller Systems Design Credits: 3
- EE 347L - Microcontroller Systems Design Lab Credits: 1
- EE 385 - Electromagnetics Credits: 3
- 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: 3
- Technical Electives Credits: 15

Supporting Coursework

- CSC 150 - Computer Science I (COM) [HSDC] Credits: 3
- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5, HSDC] Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3
- ME 314 - Thermodynamics Credits: 3
- PHYS 209 - Fundamentals of Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 209L - Fundamentals of Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- 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 website.

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

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Electronics Engineering Technology (B.S.)

Program Coordinator/Contact

Byron Garry, Associate Professor
Department of Construction and Concrete Industry 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.

Accreditation

The Electronics Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, under the commission's General Criteria and Program Criteria for Electrical / Electronics Engineering Technology and Similarly Named Programs.

Requirements for Electronics Engineering Technology Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 3 and ENGL 277 - Technical Writing in Engineering [SGR #1, HSDC] Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences: PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3, PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1, PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3, and PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- ET 210 - Introduction to Electronic Systems Credits: 3
- ET 210L - Introduction to Electronic Systems Lab Credits: 1
- ET 220 - Analog Electronics Credits: 3
- ET 220L - Analog Electronics Lab Credits: 1
- ET 232 - Digital Electronics and Microprocessors Credits: 2
- ET 232L - Digital Electronics and Microprocessors Lab Credits: 1
- ET 240 - Techniques of Servicing Credits: 3
- ET 325 - Advanced Analog Electronics Credits: 3
- ET 325L - Advanced Analog Electronics Lab Credits: 1
- ET 330 - Microcontrollers and Networks Credits: 2
- ET 330L - Microcontrollers and Networks Lab Credits: 1
- ET 332 - Advanced Digital Electronics Credits: 2
- ET 332L - Advanced Digital Electronics Lab Credits: 1
- ET 345 - Power Systems Credits: 2
- ET 345L - Power Systems Lab Credits: 1
- ET 380 - Circuit Boards and Design Credits: 2
- ET 380L - Circuit Boards and Design Lab Credits: 1
- ET 426 - Communication Systems Credits: 2
- ET 426L - Communication Systems Lab Credits: 1
- ET 451 - Industrial Controls and PLCs Credits: 2
- ET 451L - Industrial Controls and PLCs Lab Credits: 1
- ET 471 - Capstone Experience Credits: 2
- ET 490 - Seminar (COM) Credits: 1

Supporting Coursework

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- CM 130 - Management Tools and Analysis Credits: 3
- CSC 150 - Computer Science I (COM) [HSDC] Credits: 3
- GE 101 - Introduction to Engineering and Technical Professions [HSDC] 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
- GE 385 - Introduction to Systems Engineering and Management Credits: 3 or MGMT 360 - Organization and Management (COM) Credits: 3
- GE 470 - Project Management Credits: 2
- HRM 460 - Human Resource Management (COM) Credits: 3 or LDR 435 - Organizational Leadership and Team Development Credits: 3
- MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4
- MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1
- MNET 367 - Production Strategy Credits: 2
- MNET 367L - Production Strategy Lab Credits: 1
- OM 462 - Quality Management Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Elementary Education (B.S.)

Program Coordinator/Contact

Patrick Hales, Associate Professor, Assistant Director of K-12 Teacher Education
School of Education, Counseling and Human Development
Wenona Hall 114
605-688-5039

Program Information

Elementary educators set the stage for lifelong learning. This important responsibility demands an understanding of modern teaching methods and child development, as well as a broad knowledge in multiple subjects, from literacy, mathematics and science to the arts, health and physical education. The Elementary Education program prepares graduates to teach students in the elementary grades, including kindergarten through eighth grade, 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. Students complete a student teaching experience at a selected public school.

Accreditation

South Dakota State University's educator preparation programs are approved by the Council for the Accreditation of Educator Preparation (CAEP). Elementary Education is a new major at SDSU starting in the 2023-2024 academic year. This program will be eligible for accreditation review in 2026.

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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 Elementary Education are delivered face-to-face, online, and hybrid (face-to-face and online combination). All ELED courses have practical applications in field experience settings in K-8.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, PE, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, PE, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.

- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, PE, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, PE, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Requirements for Elementary Education Major: 120 Credits

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences:
 - HIST 151 - United States History I (COM) [SGR #3, HSDC] [CIV] Credits: 3 or HIST 152 - United States History II (COM) [SGR #3, HSDC] [CIV] Credits: 3 or POLS 100 - American Government (COM) [SGR #3, HSDC] [CIV] Credits: 3
 - PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- Goal #4 Arts and Humanities: ENGL 240 - Juvenile Literature [SGR #4, HSDC] Credits: 3 and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Electives Credits: 3
- Goal #6 Natural Sciences:
 - BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2 and BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1
 - GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3 and GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1 or GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3 and GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1

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, HSDC] Credits: 3
- ECE 241 - Child Development II: 3 to 8 Years Credits: 3
- ECE 470 - Early Childhood Inclusion Strategies Credits: 3
- ECE 375 - Guidance in ECE Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3
- EDFN 351 - Teaching and Learning I Credits: 1
- 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 456 - Capstone/Action Research Credits: 1
- EDFN 461 - Cultural and Psychological Perspectives in the Acquisition of English as a Second Language Credits: 3
- ELED 230 - Assessment and Classroom Management Credits: 2
- ELED 310 - K-8 Methods of Music, Art and Drama (COM) Credits: 2
- ELED 320 - K-8 Science Methods (COM) Credits: 3
- ELED 330 - K-8 Math Methods (COM) Credits: 3
- ELED 360 - K-8 Social Science Methods (COM) Credits: 3
- ELED 440 - K-8 Language Arts Methods (COM) Credits: 3
- ELED 450 - K-8 Reading Methods (COM) Credits: 3
- ELED 466 - P-12 ELL Curriculum, Instruction and Assessment (COM) Credits: 3
- ELED 471 - Foundations of Reading Credits: 3

- ELED 495 - Practicum (COM) Credits: 1-12 (2 credits required)
- MATH 245 - Mathematics for Primary Grades I Credits: 3
- MATH 345 - Mathematics for Primary Grades II Credits: 3
- PE 360 - K-8 Physical Education Methods (COM) Credits: 2
- PE 360L - K-8 Physical Education Methods Lab Credits: 1
- PHYS 216 - Physical Science for Early Childhood Credits: 2
- PHYS 216L - Physical Science for Early Childhood Lab Credits: 1
- SPED 100 - Introduction to Persons with Exceptionalities (COM) Credits: 3

Total Required Credits: 120

Notes

- 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	83 Credit Hours
Electives **	2 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
 **Taken as needed to complete any additional degree requirements.

Engineering Technology (A.S.)

Program Coordinator/Contact

Jason Prout, Instructor
 Department of Construction and Concrete Industry 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.).

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Elective Credits: 3
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences: CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- CIM 120 - Introduction to Industrial Safety Credits: 3
- CSC 150 - Computer Science I (COM) [HSDC] Credits: 3
- ET 210 - Introduction to Electronic Systems Credits: 3
- ET 210L - Introduction to Electronic Systems Lab Credits: 1
- GE 101 - Introduction to Engineering and Technical Professions [HSDC] Credits: 1

- GE 121 - Engineering Design Graphics I Credits: 1
- GE 123 - Computer Aided Drawing Credits: 1
- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1

Technical Electives

Select nine credits of technical electives. Courses will require advisor approvals. The following are recommended courses. Credits: 9

- ET 232 - Digital Electronics and Microprocessors Credits: 2
- ET 232L - Digital Electronics and Microprocessors Lab Credits: 1
- ET 240 - Techniques of Servicing Credits: 3
- GE 231 - Technology, Society, and Ethics 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, HSDC] 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

*System General Education Requirements for students pursuing an associate degree shall include a minimum of 24 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**Taken as needed to complete any additional degree requirements.

English (B.A./B.S.)

Program Coordinator/Contact

Jason McEntee, Director
School 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.

Course Delivery Format

Coursework is offered on campus and online.

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 school. All sections of ENGL 210 count as a major elective.

Requirements for English 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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

Major Requirements

- ENGL 151 - Introduction to English Studies Credits: 3¹
- ENGL 221 - British Literature to 1800 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 222 - British Literature Since 1800 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 241 - American Literature to 1865 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 242 - American Literature Since 1865 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 284 - Introduction to Criticism (COM) [SGR #1, HSDC] Credits: 3
- ENGL 479 - Capstone Course and Writing in the Discipline Credits: 3³ (Capstone)
- ENGL Electives: 6
- LING 203 - English Grammar Credits: 3

300-400 Level Courses

Select four 300-400 level courses. Credits: 12

- 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 471 - Academic Editing and Publishing Credits: 3
- ENGL 472 - Film Criticism (COM) Credits: 3
- ENGL 473 - Creative Writing: Screenwriting (COM) Credits: 3
- ENGL 475 - Creative Writing: Non-Fiction (COM) Credits: 3
- ENGL 476 - Creative Writing: Fiction (COM) Credits: 3
- ENGL 478 - Creative Writing: Poetry (COM) Credits: 3
- ENGL 483 - Advanced Creative Writing (COM) Credits: 3
- ENGL 485 - Writing Center Tutoring Credits: 3
- ENGL 492 - Topics (COM) Credits: 1-5 (3 credits required) (Topics on Professional or Creative Writing)

Writing Course

Select one writing course. Credits: 3

- ENGL 379 - Technical Communication (COM) Credits: 3
- ENGL 383 - Creative Writing I (COM) Credits: 3

Supporting Coursework

- HIST 111 - World Civilizations I (COM) [SGR #4, HSDC] Credits: 3 and HIST 112 - World Civilizations II (COM) [SGR #4, HSDC] Credits: 3 or HIST 121 - Western Civilization I (COM) [SGR #4, HSDC] Credits: 3 and HIST 122 - Western Civilization II (COM) [SGR #4, HSDC] 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**	6+ Credit Hours

Major Requirements	45 Credit Hours
Supporting Coursework	6 Credit Hours
Electives***	33 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	45 Credit Hours
Supporting Coursework	6 Credit Hours
Electives***	35 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

English (B.A./B.S.) - English Education Specialization

Program Coordinator/Contact

Jason McEntee, Director
School of English and Interdisciplinary Studies
Pugsley Hall 301, Box 2218
605-688-5191

Program Information

The English Education Specialization requires 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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

Course Delivery Format

Coursework is offered on campus and online.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.

- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- A grade of "C" or better is required in academic major coursework (classes with ENGL or LING prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Requirements for English Major - English Education Specialization: 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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

Major Requirements

- ENGL 151 - Introduction to English Studies Credits: 3
- ENGL 221 - British Literature to 1800 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 222 - British Literature Since 1800 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 240 - Juvenile Literature [SGR #4, HSDC] Credits: 3
- ENGL 241 - American Literature to 1865 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 242 - American Literature Since 1865 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 284 - Introduction to Criticism (COM) [SGR #1, HSDC] Credits: 3
- ENGL 330 - Shakespeare (COM) Credits: 3
- ENGL 383 - Creative Writing I (COM) Credits: 3
- ENGL 424 - 7-12 Language Arts Methods Credits: 3
- ENGL 445 - American Indian Literature (COM) 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, HSDC] Credits: 3
- HIST 112 - World Civilizations II (COM) [SGR #4, HSDC] Credits: 3
- HIST 121 - Western Civilization I (COM) [SGR #4, HSDC] Credits: 3
- HIST 122 - Western Civilization II (COM) [SGR #4, HSDC] Credits: 3

Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3

- 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
- 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
- SPED 100 - Introduction to Persons with Exceptionalities (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**	6+ Credit Hours
Major Requirements	39 Credit Hours
Teaching Specialization Requirements	37 Credit Hours
Supporting Coursework	6 Credit Hours
Electives***	2 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	39 Credit Hours
Teaching Specialization Requirements	37 Credit Hours
Supporting Coursework	6 Credit Hours
Electives***	4 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

English (B.A./B.S.) - Writing Specialization

Program Coordinator/Contact

Jason McEntee, Director
School of English and Interdisciplinary Studies
Pugsley Hall 301, Box 2218
605-688-5191

Program Information

The English major - Writing Specialization requires 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.

Course Delivery Format

Coursework is offered on campus and online.

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 school. All sections of ENGL 210 count as a major elective.

Requirements for English Major - Writing Specialization: 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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

Major Requirements

- ENGL 151 - Introduction to English Studies Credits: 3
- ENGL 284 - Introduction to Criticism (COM) [SGR #1, HSDC] Credits: 3
- ENGL 379 - Technical Communication (COM) Credits: 3
- ENGL 383 - Creative Writing I (COM) Credits: 3
- ENGL 479 - Capstone Course and Writing in the Discipline Credits: 3 (Capstone)
- ENGL Electives: 6
- LING 203 - English Grammar Credits: 3

300-400 Level Literature Courses

Select two 300-400 level literature course. Credits: 6

- 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, HSDC] Credits: 3
- ENGL 471 - Academic Editing and Publishing Credits: 3
- ENGL 472 - Film Criticism (COM) Credits: 3
- ENGL 473 - Creative Writing: Screenwriting (COM) Credits: 3
- ENGL 475 - Creative Writing: Non-Fiction (COM) Credits: 3
- ENGL 476 - Creative Writing: Fiction (COM) Credits: 3
- ENGL 478 - Creative Writing: Poetry (COM) Credits: 3
- ENGL 483 - Advanced Creative Writing (COM) Credits: 3
- ENGL 485 - Writing Center Tutoring Credits: 3
- ENGL 492 - Topics (COM) Credits: 1-5 (3 credits required) (Topics on Professional or Creative Writing)

Literary History

Select two courses in literary history. Credits: 6

- ENGL 221 - British Literature to 1800 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 222 - British Literature Since 1800 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 241 - American Literature to 1865 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 242 - American Literature Since 1865 (COM) [SGR #4, HSDC] Credits: 3

Supporting Coursework

- HIST 111 - World Civilizations I (COM) [SGR #4, HSDC] Credits: 3 and HIST 112 - World Civilizations II (COM) [SGR #4, HSDC] Credits: 3 or HIST 121 - Western Civilization I (COM) [SGR #4, HSDC] Credits: 3 and HIST 122 - Western Civilization II (COM) [SGR #4, HSDC] 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**	6+ Credit Hours
Major Requirements	45 Credit Hours
Supporting Coursework	6 Credit Hours
Electives***	33 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	45 Credit Hours
Supporting Coursework	6 Credit Hours
Electives***	35 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Entrepreneurial Studies (B.A./B.S.)

Program Coordinator/Contact

Barb Heller, Entrepreneurship Coordinator
Ness School of Management and Economics
Harding Hall 139
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 creative thinking.

Accreditation

The Ness School of Management and Economics is accredited by the Association to Advance Collegiate Schools of Business International (AACSB).

Course Delivery Format

The program offers courses on campus, with limited online coursework.

Academic Requirements

Students must earn a grade of "C" or better in BADM 485 - Strategic Management, 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 or more majors offered through the Ness School of Management and Economics, each major needs to have at least 15 credits that are distinct from the other major(s).

Requirements for Entrepreneurial Studies Major: 120 Credits

Bachelor of Arts

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6

- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] (Major Requirement) and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and 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
- ACCT, AGEC, BADM, BLAW, CA, DSCI, ECON, ENTR, FIN, HRM, MKTG, MGMT, or OM Upper-division Electives Credits: 3
- BADM 101 - Survey of Business (COM) [HSDC] Credits: 3
- BADM 485 - Strategic Management Credits: 3 (Capstone)
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- CSC/MGMT 325 - Management Information Systems (COM) Credits: 3
- ECON 119 - First Year Seminar Credits: 1
- ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3
- ECON 319 - Seminar with Industry Leaders Credits: 1
- ENTR 236 - Fundamentals of Innovation and Creativity Credits: 3
- ENTR 238 - Product Development and Market Discovery Credits: 3
- ENTR 305 - Innovation Studio Credits: 1
- ENTR 337 - Entrepreneurship Development Credits: 3
- ENTR 338 - Pathways to Launching and Growing a Venture Credits: 3
- ENTR 410 - Entrepreneurial Strategy Credits: 3
- FIN 310 - Business Finance (COM) Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3
- MKTG 474 - Personal Selling (COM) Credits: 3

Supporting Coursework

- ENGL 379 - Technical Communication (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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*	27 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	6+ Credit Hours
Major Requirements	60 Credit Hours

Supporting Coursework	6 Credit Hours
Electives***	27 Credit Hours

Bachelor of Science

System General Education Requirements*	27 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	60 Credit Hours
Supporting Coursework	6 Credit Hours
Electives***	23 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Exercise Science (B.S.)

Program Coordinator/Contact

Lee Weidauer, Associate Professor
School of Health and Human Sciences
Wagner Hall 405, Box 2275A
605-688-4630

Program Information

Exercise Science is the study of human movement performed to maintain or improve physical fitness. Exercise Science graduates are well trained to assess, design and implement individual and group exercise and fitness programs for individuals who are healthy and those with controlled disease. They are skilled in evaluating health behaviors and risk factors, conducting fitness assessments, writing appropriate exercise prescriptions, and motivating individuals to modify negative health habits. Exercise Science professionals work in university, corporate, commercial or community settings in which their clients/patients participate in health promotion and fitness-related activities. Exercise Science students will have the opportunity to become a certified American College of Sports Medicine Exercise Physiologist (ACSM-EP) during their senior year in the program. Students will also be prepared to become a certified Personal Trainer, Group Exercise Instructor and Strength and Conditioning Specialist.

Exercise Science students have the opportunity to gain hands on experience by completing an on-campus internship and an off-campus field experience. Students have selected sites both domestically and internationally in the fields of strength and conditioning, cardiac rehabilitation, worksite wellness, fitness management, community physical activity promotion and biomechanics.

Accreditation

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.

Certification and Licensure

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.

Program Progression

Students who declare Exercise Science as a chosen major must meet minimum grade requirements in key courses to progress through the program. Progression to the 300 and 400 level exercise science courses (with the exception of EXS 354) requires successful completion with a grade of C or better in the following courses: BIOL 221 - Human Anatomy (COM), BIOL 221L - Human Anatomy Lab (COM), BIOL 325 - Physiology (COM), and BIOL 325L - Physiology Lab (COM) and GPA of 2.75 or higher. To stay on track to complete the program in 4 years students should complete the BIOL 221, BIOL 221L, BIOL 325, and BIOL 325L prior to the start of the fall semester of their junior year.

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.

Requirements for Exercise Science Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 or higher level SGR #5 course
- Goal #6 Natural Sciences: Select from the following
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3, CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4, and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1
 - CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3, CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3, and CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 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 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- CHRD 475 - Motivational Interviewing and Wellness Counseling Credits: 3 or HLTH 405 - Health Coaching Concepts and Skills Credits: 3
- EXS 350 - Exercise Physiology (COM) Credits: 3
- EXS 354 - Prevention and Care of Athletic Injuries (COM) Credits: 2
- EXS 354L - Prevention and Care of Athletic Injuries Lab (COM) Credits: 1
- EXS 367 - Health and Human Performance Credits: 2
- EXS 367L - Health and Human Performance Lab Credits: 1
- EXS 380 - Professional Development Credits: 1
- EXS 400 - Exercise Test and Prescription (COM) Credits: 2
- EXS 400L - Exercise Test and Prescription Lab (COM) Credits: 1
- EXS 420 - Group Exercise and Facility Management Credits: 1
- EXS 420L - Group Exercise and Facility Management Lab Credits: 1
- EXS 450 - Clinical Exercise Physiology (COM) Credits: 3
- EXS 454 - Biomechanics (COM) Credits: 2
- EXS 454L - Biomechanics Lab (COM) Credits: 1
- EXS 455 - 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)
- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- HLTH 220 - Social Determinants of Health Credits: 3
- HLTH 250 - Pre-Professional First Aid and CPR (COM) Credits: 2 or HLTH 364 - Emergency Medical Technician (COM) Credits: 3 and HLTH 364L - Emergency Medical Technician Lab (COM) Credits: 1
- HLTH 479 - Health Promotion Programming and Evaluation Credits: 2
- HSC 445 - Epidemiology Credits: 3
- 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	61-63 Credit Hours
Electives**	20-23 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Family and Consumer Sciences Education (B.S.)

Program Coordinator/Contact

Nicole A. Graves, Associate 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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ELED, ECE, or SPED prefixes).
- An overall GPA of 2.5 is required.

- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, FCSE, SEED, or SPED prefixes).
- A grade of "C" or better is required in content area coursework (classes with FCSE prefix).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Requirements for Family and Consumer Sciences Education Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective 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 305 - Philosophy of Career and Technical Education Credits: 2
- AGED/ FCSE 431 - 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, HSDC] Credits: 3
- CA 289 - Consumers in the Market Credits: 3
- ECE 355 - Administration and Supervision of Early Childhood Setting Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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
- FCSE 332 - Housing in Family & Consumer Sciences Education Credits: 3
- FCSE 411 - Philosophy and Methods Family and Consumer Sciences Credits: 4
- FSRM 231 - Ready-To-Wear Analysis Credits: 2
- FSRM 231L - Ready-To-Wear Analysis Lab Credits: 1
- HDFS 227 - Human Development and Personality I: Childhood Credits: 3
- HDFS 410 - Parenting Credits: 3
- HMG 171 - Introduction to Hospitality, Tourism, and Event Industry Credits: 3
- NUTR 111 - Food, People and the Environment Credits: 3
- NUTR 141 - Foods Principles Credits: 3
- NUTR 141L - Foods Principles Lab Credits: 1
- NUTR 221 - Survey of Nutrition Credits: 3
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SEED 456 - Capstone/Action Research Credits: 1
- SPED 100 - Introduction to Persons with Exceptionalities (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*	27 Credit Hours
College of Education and Human Science Requirements	4 Credits Hours
Major Requirements	84-85 Credit Hours
Electives**	4-5 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements

Fashion Studies and Retail Merchandising (B.S.)

Program Coordinator/Contact

Anne-Marie Junker, Program Coordinator
School of Health and Human 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.

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 or ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: ARTH 100 - Art Appreciation (COM) [SGR #4, HSDC] Credits: 3 and HIST 121 - Western Civilization I (COM) [SGR #4, HSDC] Credits: 3 or HIST 122 - Western Civilization II (COM) [SGR #4, HSDC] Credits: 3
- 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

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ADV 314 - Digital Promotions Credits: 3
or MCOM 219 - Social Media Strategies Credits: 3
- CA 230 - Consumer Engagement Credits: 3
- CA 430 - Consumer Decision Making Credits: 3
- FSRM 172 - Introduction to Apparel Merchandising Credits: 2
- FSRM 231 - Ready-To-Wear Analysis Credits: 2
- FSRM 231L - Ready-To-Wear Analysis Lab Credits: 1
- FSRM 242 - Textiles I Credits: 2
- FSRM 242L - Textiles I Lab Credits: 1
- FSRM 253 - Socio-Psychological Aspects of Dress Credits: 3
- FSRM 274 - Fashion Promotion Credits: 2
- FSRM 274L - Fashion Promotion Lab Credits: 1
- FSRM 315 - Apparel Design Credits: 2
- FSRM 315L - Apparel Design Lab Credits: 1

- FSRM 352 - History of Dress in the Western World Credits: 3
- FSRM 361 - Aesthetics Credits: 3
- FSRM 372 - Trending and Buying Credits: 3
- FSRM 462 - Retail Management Credits: 3
- FSRM 472 - Merchandising Credits: 2
- FSRM 472L - Merchandising Lab Credits: 1
- FSRM 473 - Global Sourcing Credits: 2
- FSRM 473L - Global Sourcing Lab Credits: 1
- FSRM 480 - Travel Studies Credits: 1-5 (1 credit required)
- FSRM 490 - Seminar (COM) Credits: 3
- FSRM 495 - Practicum (COM) Credits: 3
- HMG 282 - Customer Service Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3
- LMNO 301 - Fundraising and Resource Development Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3
or 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	66 Credit Hours
Electives**	20 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Food Science (B.S.)

Program Coordinator/Contact

Londa Nwadike, 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.

Accreditation

The B.S. in Food Science is approved by the Institute of Food Technologists.

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 or ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3

- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences: CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3, CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3, and CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- AGE 366 - Food Law Credits: 3
- AS 241 - Introduction to Meat Science Credits: 2
and AS 241L - Introduction to Meat Science Lab Credits: 1
or DS 231 - Dairy Foods Credits: 3
- AST 443 - Food Processing and Engineering Fundamentals Credits: 2
- AST 443L - Food Processing and Engineering Fundamentals Lab Credits: 1
- DS 119 - Opportunities in Dairy and Food Science Credits: 1
- DS 120 - Survey of Dairy and Food Science Industries Credits: 1
- DS 421 - Dairy Plant Management Credits: 3
- DS 421L - Dairy Plant Management Lab Credits: 1
- 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 - Applied Food Science Credits: 3
- FS 341L - Applied Food Science Lab Credits: 1
- FS 351 - Principles of Food Processing Credits: 2
- FS 351L - Principles of Food Processing Lab Credits: 1
- FS 400 - Food Chemistry and Analysis Credits: 3
- FS 400L - Food Chemistry and Analysis Lab Credits: 2
- FS 451 - New Food Product Development Credits: 3
- FS 451L - New Food Product Development Lab Credits: 1
- FS 494 - Internship (COM) Credits: 1-3 (3 credits required)
or FS 498 - Research (COM) Credits: 1-6 (3 credits required)
- MICR 311 - Food Microbiology Credits: 2
- MICR 311L - Food Microbiology Lab Credits: 2
- NUTR 315 - Human Nutrition (COM) Credits: 3

Supporting Coursework

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4
and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1
or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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
Major Requirements	51 Credit Hours
Supporting Coursework	27-28 Credit Hours
Electives**	9-10 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

French Studies (B.A.)

Program Coordinator/Contact

Marie-Pierre Caquot Baggett, Professor of French
School of American and Global Studies
Lincoln Hall 319, Box 2212
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 cultures of 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.

Course Delivery Format

The French Studies program offers flexibility and variety in the delivery of its courses. Some, including upper-division courses, are taught face-to-face.

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.

Requirements for French Studies Major: 120 Credits

Bachelor of Arts

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+
- One declared minor outside of the major discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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 and Social Sciences for additional information about Bachelor of Arts specifications.

Major Requirements

- FREN 102 - Introductory French II (COM) [SGR #4, HSDC] Credits: 4
- FREN 201 - Intermediate French I (COM) [SGR #4, HSDC] Credits: 3
- FREN 202 - Intermediate French II (COM) [SGR #4, HSDC] 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

Note: Majors are strongly encouraged to study abroad in a French-speaking country.

- 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

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**	6+ Credit Hours
Major Requirements	36 Credit Hours
Electives***	54 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

French Studies (B.A.) - Teaching Specialization

Program Coordinator/Contact

Marie-Pierre Caquot Baggett, Professor of French
School of American and Global Studies
Lincoln Hall 319, Box 2212
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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

Course Delivery Format

The French Studies program offers flexibility and variety in the delivery of its courses. Some, including upper-division courses, are taught face-to-face.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- Students with previous knowledge of the language must take the placement test and register for an appropriate course.
- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- A grade of "C" or better is required in academic major coursework (classes with FREN or MFL prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

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 French Studies. A minimum ranking of Advanced Low is the target for majors with a teaching specialization.

Requirements for French Major - Teaching Specialization: 120 Credits

Bachelor of Arts

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+
- One declared minor outside of the major discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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 and Social Sciences for additional information about Bachelor of Arts specifications.

Major Requirements

- FREN 102 - Introductory French II (COM) [SGR #4, HSDC] Credits: 4
- FREN 201 - Intermediate French I (COM) [SGR #4, HSDC] Credits: 3
- FREN 202 - Intermediate French II (COM) [SGR #4, HSDC] 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
- MFL 420 - K-12 Foreign Language Methods (COM) Credits: 3 (Capstone)

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, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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
- 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
- SPED 100 - Introduction to Persons with Exceptionalities (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**	6+ Credit Hours
Major Requirements	36 Credit Hours
Teaching Specialization Requirements	37 Credit Hours
Electives***	17 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

General Studies (A.A.)

Program Coordinator/Contact

Jessica Lewis, Coordinator
College of Arts, Humanities and Social Sciences
Lincoln Hall 123
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.

Course Delivery Format

Coursework for the program is delivered at multiple locations including the Brookings main campus and online.

Requirements for General Studies Major: 60 Credits

Associate of Arts

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 3-6*
- Goal #4 Arts and Humanities: 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

General Studies (B.G.S.)

Program Coordinator/Contact

Sarah Kim, Student Services Facilitator
Continuing and Distance Education
Arts, Humanities and Social Sciences
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, military, technology, and wellness.

Course Delivery Format

Adult and returning students will have the ability to complete coursework towards the Bachelor of General Studies online and on campus.

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.

Requirements for General Studies Major: 120 Credits

Bachelor of General Studies

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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

- Capstone course in the major discipline
- Upper division coursework Credits: 33

Major Requirements

- GS 490 - Seminar (COM) Credits: 3 (Capstone)

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, dairy science, horticulture, natural resource management, plant science)
- Allied Health (Courses such as anatomy, athletic training, medical laboratory science, health sciences)
- Business (Courses such as business administration, consumer affairs, economics, ag econ, entrepreneurial studies, leadership)
- Education (Courses such as early childhood education, art education, ag education)
- Engineering (Courses such as architecture, concrete industry management, construction management)
- Fine Arts (Courses such as art, art history, interior design, theater, music)
- Humanities (Courses such as languages, religion, philosophy, mass communication, and communication studies)
- Mathematics (Courses such as mathematics, statistics, data science)
- Military (Courses such as aerospace studies and military science)
- Science (Courses such as biology, chemistry, food science, physics, dietetics)
- Social Science (Courses such as civics, anthropology, human development, political science, psychology, sociology)
- Technology (Courses such as agricultural systems technology, computer science, electronics technology)
- Technical (Courses such CTE and aviation)
- Wellness (Courses such as health, nutrition, physical education, and recreation)

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

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

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.

Course Delivery Format

The Geographic Information Sciences program includes lecture, discussion, laboratory research, fieldwork, and travel, with limited online coursework.

Academic Requirements

Students must earn at least a "C" in each course used to meet the major requirements.

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: GEOG 111 - Sustainable Society (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) or GEOG 200 - Introduction to Human Geography (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) or GEOG 210 - World Regional Geography (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement), GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), and GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement)

Department of Geography and Geospatial Sciences Requirements Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.
- 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: 30

System General Education and/or major coursework may satisfy some or all of the above requirements. Consult program advisor for details.

Major Requirements

- GEOG 111 - Sustainable Society (COM) [SGR #3, HSDC] Credits: 3 or GEOG 200 - Introduction to Human Geography (COM) [SGR #3, HSDC] Credits: 3
- GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3
- GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1
- GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3
- GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1
- GEOG 210 - World Regional Geography (COM) [SGR #3, HSDC] Credits: 3
- GEOG 280 - Introduction to Remote Sensing Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- GEOG 421 - Research Methods in Geography Credits: 3
- GEOG 447 - Geography of the Future (COM) Credits: 3 (Capstone) or GEOG 454 - Sustainable Communities Credits: 3 (Capstone)
- GEOG 480 - Satellite Remote Sensing Credits: 2
- GEOG 480L - Satellite Remote Sensing Lab Credits: 1

Select from the following

Select one of the following options - GIS Analyst or GIS Developer. Credits: 15

GIS Analyst Option

Credits: 15

- GEOG 473 - GIS: Data Creation and Integration (COM) Credits: 2
- GEOG 473L - GIS: Data Creation and Integration Lab (COM) Credits: 1
- GEOG 474 - GIS: Vector and Raster Modeling Credits: 2
- GEOG 474L - GIS: Vector and Raster Modeling Lab Credits: 1
- GEOG 475 - GIS Applications Credits: 2
- GEOG 475L - GIS Applications Lab Credits: 1

Select from the following

Select six credits from the following list.

- GEOG 270 - Introduction to Small Uncrewed Aircraft Systems Credits: 3
- GEOG 383 - Cartography Credits: 2
- GEOG 383L - Cartography Lab Credits: 1
- GEOG 471 - Programming for Geospatial Data Analysis Credits: 3
- GEOG 476 - Web GIS Credits: 2
- GEOG 476L - Web GIS Lab Credits: 1
- GEOG 477 - Spatial Databases Credits: 2
- GEOG 477L - Spatial Databases Lab Credits: 1
- GEOG 483 - UAS Remote Sensing Credits: 2
- GEOG 483L - UAS Remote Sensing Lab Credits: 1
- GEOG 485 - Advanced Satellite Remote Sensing Credits: 2
- GEOG 485L - Advanced Satellite Remote Sensing Lab Credits: 1

GIS Developer Option

Credits: 15

- GEOG 471 - Programming for Geospatial Data Analysis Credits: 3
- GEOG 476 - Web GIS Credits: 2
- GEOG 476L - Web GIS Lab Credits: 1
- GEOG 477 - Spatial Databases Credits: 2
- GEOG 477L - Spatial Databases Lab Credits: 1

Select from the following

Select six credits from the following list.

- GEOG 270 - Introduction to Small Uncrewed Aircraft Systems Credits: 3
- GEOG 383 - Cartography Credits: 2
- GEOG 383L - Cartography Lab Credits: 1
- GEOG 473 - GIS: Data Creation and Integration (COM) Credits: 2
- GEOG 473L - GIS: Data Creation and Integration Lab (COM) Credits: 1
- GEOG 474 - GIS: Vector and Raster Modeling Credits: 2
- GEOG 474L - GIS: Vector and Raster Modeling Lab Credits: 1
- GEOG 475 - GIS Applications Credits: 2
- GEOG 475L - GIS Applications Lab Credits: 1
- GEOG 483 - UAS Remote Sensing Credits: 2
- GEOG 483L - UAS Remote Sensing Lab Credits: 1
- GEOG 485 - Advanced Satellite Remote Sensing Credits: 2
- GEOG 485L - Advanced Satellite Remote Sensing Lab Credits: 1

Electives

Taken as needed to complete any additional degree requirements.

For those seeking technical careers in GISc, these additional courses are suggested:

- CEE 106 - Elementary Surveying Credits: 3
- CEE 106L - Elementary Surveying Lab Credits: 1
- CEE 434 - Hydrology Credits: 3
- CSC 105 - Introduction to Computers (COM) [HSDC] Credits: 3
- CSC 150 - Computer Science I (COM) [HSDC] Credits: 3
- CSC 205 - Advanced Computer Applications (COM) [HSDC] Credits: 3
- CSC 474 - Computer Networks Credits: 3
- GE 121 - Engineering Design Graphics I Credits: 1
- GEOG 384 - Advanced Cartography Credits: 2
- GEOG 384L - Advanced Cartography Studio Credits: 1
- GEOG 485 - Advanced Satellite Remote Sensing Credits: 2
- GEOG 485L - Advanced Satellite Remote Sensing Lab Credits: 1
- INFO 101 - Introduction to Informatics [HSDC] Credits: 3
- MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5
- MATH 120 - Trigonometry (COM) [SGR #5, HSDC] Credits: 3

Total Required Credits: 120

Summary of Program Requirements

Bachelor of Science

System General Education Requirements* 30 Credit Hours

Department of Geography & Geospatial Sciences Requirements**10+ Credit Hours

Major Requirements	44 Credit Hours
Electives**	53 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and Department Requirements.

**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.

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.

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.

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.

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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: 30

Bachelor of Arts Requirements: 6+

- Modern Foreign Language Including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

Major Requirements - Bachelor of Arts

- GEOG 111 - Sustainable Society (COM) [SGR #3, HSDC] Credits: 3
or GEOG 200 - Introduction to Human Geography (COM) [SGR #3, HSDC] Credits: 3
- GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3
- GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1
- GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3
- GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1
- GEOG 210 - World Regional Geography (COM) [SGR #3, HSDC] Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
and GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
or GEOG 383 - Cartography Credits: 2
and GEOG 383L - Cartography Lab Credits: 1
- GEOG 421 - Research Methods in Geography Credits: 3
or HIST 480 - Historical Methods and Historiography (COM) Credits: 3
- GEOG 447 - Geography of the Future (COM) Credits: 3 (Capstone)
or GEOG 454 - 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 - Geography of Europe Credits: 3
- GER 380 - Deutschland Heute (COM) Credits: 3
- GER 435 - German Cultural 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 401 - Geography of Languages Credits: 3
- GEOG 405 - Historical Geography Credits: 3
- GEOG 459 - Political Geography (COM) Credits: 3
- GEOG 460 - Geopolitics Credits: 3
- GLST 480 - Ethics of Globalization Credits: 3
- HIST 368 - History and Culture of the American Indian (COM) Credits: 3
- HIST 378 - Folklore and Popular Culture of the U.S. 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 - Macroeconomic Policy Credits: 3
- ECON 433 - Public Finance (COM) Credits: 3
- ECON 440 - International Economics Credits: 3
- GEOG 351 - Economic Geography Credits: 3
- GEOG 425 - Population Geography Credits: 3
- GEOG 454 - Sustainable Communities Credits: 3
- GEOG 461 - Urban Geography Credits: 3
- POLS 360 - Politics of Inequality (COM) Credits: 3
- SOC 350 - Race and Ethnic Relations (COM) Credits: 3
- SOC 440 - Urban Sociology (COM) Credits: 3
- SOC 462 - Population Studies Credits: 3

Environmental Geography

- AGECE 479 - Agricultural Policy Credits: 3
- ECON 472 - Resource and Environmental Economics (COM) Credits: 3
- GEOG 365 - Land Use and Planning Credits: 3
- GEOG 415 - Environmental Geography and Sustainability Credits: 3
- HIST 409 - Environmental History of the U.S. (COM) Credits: 3
- SOC 245 - Environment and Society Credits: 3

Major Requirements - Bachelor of Science

- GEOG 111 - Sustainable Society (COM) [SGR #3, HSDC] Credits: 3
or GEOG 200 - Introduction to Human Geography (COM) [SGR #3, HSDC] Credits: 3
- GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3
- GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1
- GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3
- GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1
- GEOG 210 - World Regional Geography (COM) [SGR #3, HSDC] Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
and GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
or GEOG 383 - Cartography Credits: 2
and GEOG 383L - Cartography Lab Credits: 1
or GEOG 483 - UAS Remote Sensing Credits: 2
and GEOG 483L - UAS Remote Sensing Lab Credits: 1
- GEOG 421 - Research Methods in Geography Credits: 3
- GEOG 447 - Geography of the Future (COM) Credits: 3 (Capstone)
or GEOG 454 - 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 - Soil Geography and Land Use Interpretation Credits: 2
- GEOG 410L - Soil Geography and Land Use Interpretation Lab Credits: 1
- GEOG 415 - Environmental Geography and Sustainability Credits: 3
- GEOG 416 - Global Climate Change (COM) Credits: 3
- GEOG 468 - Paleoclimatology 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, HSDC] Credits: 3
- GEOG 219 - Geography of South Dakota [SGR #3, HSDC] 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 401 - Geography of Languages Credits: 3
- GEOG 405 - Historical Geography Credits: 3
- GEOG 425 - Population Geography Credits: 3
- GEOG 430 - Geography of Europe Credits: 3
- GEOG 459 - Political Geography (COM) Credits: 3
- GEOG 460 - Geopolitics Credits: 3
- GEOG 461 - Urban Geography Credits: 3
- GEOG 464 - Local and Regional Planning Credits: 3
- HIST 409 - 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 & Geospatial Sciences Requirements** 6+ Credit Hours	
Major Requirements	41 Credit Hours
Electives**	43 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
Department of Geography & Geospatial Sciences Requirements** 10+ Credit Hours	
Major Requirements	41 Credit Hours
Electives***	47 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and Department Requirements.

**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.

German (B.A.)

Program Coordinator/Contact

Eckhard Rölz, Professor of German
School of American and Global Studies
Lincoln Hall 231, Box 2212
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.

Course Delivery Format

The German program offers flexibility and variety in the delivery of its courses. Some, including upper-division courses, are taught face-to-face. Others, including courses offered as part of the German cooperative program with USD are fully online, hybrid, hyflex, or delivered through Zoom.

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.

Requirements for German Major: 120 Credits

Bachelor of Arts

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+
- One declared minor outside of the major discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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 and Social Sciences for additional information about Bachelor of Arts specifications.

Major Requirements

- GER 102 - Introductory German II (COM) [SGR #4, HSDC] Credits: 4
- GER 201 - Intermediate German I (COM) [SGR #4, HSDC] Credits: 3
- GER 202 - Intermediate German II (COM) [SGR #4, HSDC] 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 - 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 Cultural 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** 6+ Credit Hours	
Major Requirements	37 Credit Hours
Electives***	53 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

German (B.A.) - Teaching Specialization

Program Coordinator/Contact

Eckhard Rölz, Professor of German
School of American and Global Studies
Lincoln Hall 231, Box 2212
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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

Course Delivery Format

The German program offers flexibility and variety in the delivery of its courses. Some, including upper-division courses, are taught face-to-face. Others, including courses offered as part of the German cooperative program with USD are fully online, hybrid, hyflex, or delivered through Zoom.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- Students with previous knowledge of the language must take the placement test and register for an appropriate course.
- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).

- A grade of "C" or better is required in academic major coursework (classes with GER or MFL prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

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 German. A minimum ranking of Advanced Low is the target for majors with a teaching specialization.

Requirements for German Major - Teaching Specialization: 120 Credits

Bachelor of Arts

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+
- One declared minor outside of the major discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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 and Social Sciences for additional information about Bachelor of Arts specifications.

Major Requirements

- GER 102 - Introductory German II (COM) [SGR #4, HSDC] Credits: 4
- GER 201 - Intermediate German I (COM) [SGR #4, HSDC] Credits: 3
- GER 202 - Intermediate German II (COM) [SGR #4, HSDC] 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 - 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 Cultural 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, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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
- 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
- SPED 100 - Introduction to Persons with Exceptionalities (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**	6+ Credit Hours
Major Requirements	37 Credit Hours
Teaching Specialization Requirements	37 Credit Hours
Electives***	16 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Global Studies (B.A.)

Program Coordinator/Contact

Molly Enz, Distinguished Professor of French and Global Studies
School of American and Global Studies
Lincoln Hall 311, Box 2212
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 on the complexity of the cultural, environmental, political, religious, and social interactions that shape our modern world and to help them find solutions to the complex global challenges of the 21st century.

Course Delivery Format

Most courses for the Global Studies program are taught face-to-face on campus. 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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: GEOG 210 - World Regional Geography (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) and SGR #3 Electives Credits: 3

- Goal #4 Arts and Humanities: HIST 112 - World Civilizations II (COM) [SGR #4, HSDC] Credits: 3 (Major Requirement) and REL 250 - World Religions (COM) [SGR #4, HSDC] Credits: 3 (Major Requirement)
- 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+
- One declared minor outside of the major discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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 and Social Sciences for additional information about Bachelor of Arts specifications.

Major Requirements

- ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3
- GEOG 210 - World Regional Geography (COM) [SGR #3, HSDC] Credits: 3
- GLST 201 - Introduction to Global Studies [SGR #3, HSDC] 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, HSDC] Credits: 3
- POLS 253 - Current World Issues [SGR #3, HSDC] Credits: 3
- REL 250 - World Religions (COM) [SGR #4, HSDC] Credits: 3

Modern Languages Requirement

Select Option 1 - One Language, Option 2 - Two Languages, or Option 3 - Qualified Waiver. Credits: 20-22

- Option 1 - One Language Credits: 20
 - 6 credits above the 202 level in one language.
 - FREN 101, FREN 102, FREN 201, FREN 202, plus 6 credits above the 202 level
 - GER 101, GER 102, GER 201, GER 202, plus 6 credits above the 202 level
 - LAKL 101, LAKL 102, LAKL 201, LAKL 202, plus 6 credits above the 202 level
 - SPAN 101, SPAN 102, SPAN 201, SPAN 202, plus 6 credits above the 202 level
- Option 2 - Two Languages Credits: 22
 - Global Studies majors may, with approval of the school, design a Modern Language program that combines two languages. Students have the option of taking courses in two languages offered at SDSU with coursework in one language through the intermediate level (201 and 202) and in the second language through the introductory level (101 and 102). Another option is for students to combine coursework in one of the languages offered at SDSU through the intermediate level (201 and 202) with coursework in a less commonly taught language (e.g., Arabic, Chinese, Japanese, Russian, etc.) through the introductory level (101 and 102 or the equivalent). This option, including an assessment plan, must be approved in advance by the school.
- Option 3 - Qualified Waiver Credits: 21
 - The School of American and Global Studies recognizes the need to be flexible regarding languages that are not offered at SDSU or that are less commonly taught in universities across the United States. The Modern Language Requirement for the major 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 they have successfully completed one or more of the nationally administered tests showing an equivalent level of proficiency.

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

- 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
- 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 435 - German Cultural History (COM) Credits: 3
- GER 454 - Survey of German Literature II (COM) Credits: 3
- GER 455 - German Film (COM) 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)
- REL/ PHIL 454 - Environmental Ethics (COM) Credits: 3
- SOC 350 - Race and Ethnic Relations (COM) Credits: 3
- SOC 462 - Population Studies Credits: 3
- SPAN 359 - Hispanic/Latinx Experiences in the US 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

- AFES 203 - Global Food Systems [SGR #3, HSDC] Credits: 3
- ECON 405 - Comparative Economic Systems (COM) Credits: 3
- ECON 440 - International Economics Credits: 3
- ECON 460 - Economic Development Credits: 3
- FSRM 473 - Global Sourcing Credits: 2
- FSRM 473L - Global Sourcing Lab Credits: 1
- GEOG 320 - Regional Geography: (COM) Credits: 3
- GEOG 415 - Environmental Geography and Sustainability Credits: 3
- GEOG 425 - Population Geography Credits: 3
- GEOG 447 - Geography of the Future (COM) Credits: 3
- GEOG 459 - Political Geography (COM) Credits: 3
- GEOG 460 - Geopolitics Credits: 3
- LMNO 201 - Introduction to Leadership and Management of Nonprofit Organizations Credits: 3

World History/Politics

- AIS/ HIST 368 - History and Culture of the American Indian (COM) Credits: 3
- HIST/ POLS 381 - Imperialism, Then and Now Credits: 3
- HIST 419 - World Environmental History (COM) Credits: 3
- HIST 445 - Nazi and Soviet Europe Credits: 3
- POLS 341 - Europe Democratic Government (COM) Credits: 3
- POLS 350 - International Relations (COM) Credits: 3
- POLS 447 - Latin American Politics (COM) 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 school director. However, a semester or academic year abroad is highly recommended.
- Exceptions to the cross cultural experience must be pre-approved by the Program Leader 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*	21 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	6+ Credit Hours
Major Requirements	59-61 Credit Hours
Electives***	38-40 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Graphic Design (B.F.A.)

Program Coordinator/Contact

Marisa TenBrink, Assistant Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Accreditation

National Association of Schools of Art and Design

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

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.

Requirements for Graphic Design Major: 120 Credits

Bachelor of Fine Arts

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: ART 111 - Drawing I (COM) [SGR #4, HSDC] 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

- 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 and 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, HSDC] 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, HSDC] Credits: 3
- DSGN 253 - Site Analysis and Surrounding Credits: 3
- DSGN 482 - Travel Studies Credits: 1-5 (3 credits required)
- ID 112 - Drafting and Visualization 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
- 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 252 - Site Planning Credits: 4

Major Requirements

- ART Elective (Art Studio) Credits: 3
- ART, GDES or MCOM Elective (Animation, Photography or Video Media) Credits: 3
- DSGN 482 - Travel Studies Credits: 1-5 (3 credits required)
- GDES 101 - Computer Graphics [HSDC] 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 Elective Credits: 3

Supporting Coursework

- ART 111 - Drawing I (COM) [SGR #4, HSDC] Credits: 3 ^S
- ART 112 - Drawing II (COM) [SGR #4, HSDC] Credits: 3 ^S
- ART 122 - Design II Color (COM) Credits: 3 ^S
- ARTH 211 - History of World Art I (COM) [SGR #4, HSDC] Credits: 3 ^{AH}
- ARTH 212 - History of World Art II (COM) [SGR #4, HSDC] 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	0 Credit Hours
School of Design Requirements**	14 Credit Hours
Major Requirements	54 Credit Hours
Supporting Coursework	18 Credit Hours
Electives***	4 Credit Hour

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, College Requirements, and School Requirements.

**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.

Health Studies (B.S.)

Program Coordinator/Contact

Emily Kranz, Program Coordinator
School of Health and Human Sciences
Wagner Hall 403, Box 2275A
605-688-5387

Program Information

The Health Studies major is for students interested in a health-related career path who desire a high degree of flexibility in curriculum options to pursue specific interests. Graduates are well-prepared for a variety of career options such a health educator, corporate wellness manager, community health worker, service coordinator, case manager and more. The degree also pairs well with pre-professional and graduate programs which may include occupational therapy, accelerated nursing, physician's assistant, chiropractor, physical therapy school, public health, health administration and counseling.

The interdisciplinary design of the curriculum provides students with a strong foundation in analyzing how economic stability, education, healthcare access, community support structures, policy and other determinants impact community health. Students are prepared to assess, plan, implement, and evaluate health promotion strategies aimed at improving population health. The rapidly growing use of information and communication technologies in healthcare such as telehealth and health informatics are included in the curriculum, preparing students to meet the dynamic and evolving landscape of healthcare.

Course Delivery Format

Instruction for the Health Studies major occurs through face-to-face and online course delivery methods.

Academic Requirements

A minimum final grade of "C" is required in all Major Requirements courses.

Requirements for Health Studies Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: MCOM 151 - Introduction to Mass Communication (COM) [SGR #4, HSDC] Credits: 3 and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences:
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
 - SGR #6 Electives 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

- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- CHRD 353 - Ethics and the Helping Professions Credits: 3
- CMST 440 - Health Communication (COM) Credits: 3
- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- HIM 150 - Introduction to Digital Health Informatics and Information Management (DSU) Credits: 3
- HLTH 100 - Wellness for Life (COM) Credits: 1
- HLTH 100L - Wellness for Life Lab (COM) Credits: 1
- HLTH 220 - Social Determinants of Health Credits: 3
- HLTH 320 - Community Health (COM) Credits: 3
- HLTH/BLAW 451 - Public Health Law Credits: 3
- HLTH 479 - Health Promotion Programming and Evaluation Credits: 2
- HSC 443 - Public Health Science Credits: 3
- HSC 445 - Epidemiology Credits: 3
- HSC 452 - Interprofessional Issues in Health Care Credits: 3
- HSC 480 - Telehealth for the Interprofessional Team Credits: 3
- NURS 201 - Medical Terminology Credits: 1
- 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*	31 Credit Hours
College of Education and Human Sciences Requirements	4 Credit Hours
Major Requirements	49 Credit Hours
Electives**	36 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Health Studies (B.S.) - Health Promotion Specialization

Program Coordinator/Contact

Emily Kranz, Program Coordinator
School of Health and Human Sciences
Wagner Hall 403, Box 2275A
605-688-5387

Program Information

The Health Studies (B.S.) - Health Promotion Specialization will prepare students to promote health and wellness in individuals, communities, and populations. Graduates will enter a growing job market and be equipped to work in a variety of settings, including community health organizations, schools, healthcare facilities, government agencies, and non-profit organizations. Students can also use this specialization as a preparatory degree for advancement into healthcare related graduate programs.

Certification and Licensure

The Health Promotion Specialization will prepare students to seek eligibility and take the Certified Health Education Exam (CHES®) through the National Commission for Health Education Credentialing. Graduates may also seek eligibility to be a Certified Wellness Practitioner (CW) through the National Wellness Institute certification program.

Course Delivery Format

Instruction for the program occurs through face-to-face and online course delivery methods.

Academic Requirements

A minimum final grade of "C" is required in all Major Requirements courses.

Requirements for Health Studies Major - Health Promotion 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 Electives Credits: 3
- Goal #3 Social Sciences: PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: MCOM 151 - Introduction to Mass Communication (COM) [SGR #4, HSDC] Credits: 3 and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences:
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
 - SGR #6 Electives 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

- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- CHRD 353 - Ethics and the Helping Professions Credits: 3
- CMST 440 - Health Communication (COM) Credits: 3
- EXS 350 - Exercise Physiology (COM) Credits: 3
- PE 300 - Applied Sport and Exercise Science (COM) Credits: 3
- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- HIM 150 - Introduction to Digital Health Informatics and Information Management Credits: 3 (DSU)
- HLTH 350 - Health Promotion Professional Development Credits: 3
- HLTH 405 - Health Coaching Concepts and Skills Credits: 3
- HLTH/BLAW 451 - Public Health Law Credits: 3
- HLTH 475 - Principles of Community Health Education Credits: 3

- HLTH 479 - Health Promotion Programming and Evaluation Credits: 2
- HSC 443 - Public Health Science Credits: 3
- HSC 445 - Epidemiology Credits: 3
- HSC 452 - Interprofessional Issues in Health Care Credits: 3
- HSC 480 - Telehealth for the Interprofessional Team Credits: 3
- NURS 201 - Medical Terminology Credits: 1
- NUTR 221 - Survey of Nutrition Credits: 3
or NUTR 225 - Nutrition for Exercise and Sport Credits: 3
or NUTR 315 - Human Nutrition (COM) 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*	31 Credit Hours
College Requirements	4 Credit Hours
Major Requirements	56 Credit Hours
Electives**	29 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Health Studies (B.S.) - Innovative Healthcare Leadership Specialization

Program Coordinator/Contact

Heidi Mennenga, Associate Dean for Academic Programs
Department of Undergraduate Nursing
Wagner Hall 255
605-688-6924

Program Information

The Health Studies (B.S.) - Innovative Healthcare Leadership Specialization will prepare students for roles in healthcare leadership and assists in meeting the need for health services managers and leaders in the current healthcare system. Graduates will be prepared for clinical or non-clinical leadership and management roles in healthcare, such as nursing home administrator, health information manager, clinic manager, and social and community service manager. A graduate with this degree may also choose to pursue an additional undergraduate degree in nursing, dietetics, or other clinical options, setting them up for leadership roles in these fields.

Course Delivery Format

Instruction for the program occurs through face-to-face and online course delivery methods.

Academic Requirements

- a cumulative GPA of 2.600 or higher
- a grade of "C" or higher in all completed courses required for graduation

Requirements for Health Studies Major - Innovative Healthcare Leadership Specialization: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences: PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: MCOM 151 - Introduction to Mass Communication (COM) [SGR #4, HSDC] Credits: 3 and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences:
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1
or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits:

3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1

- SGR #6 Electives Credits: 3

Major Requirements

- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- CHRD 353 - Ethics and the Helping Professions Credits: 3
- HIM 150 - Introduction to Digital Health Informatics and Information Management Credits: 3 (DSU)
- HLTH 220 - Social Determinants of Health Credits: 3
- HLTH/BLAW 451 - Public Health Law Credits: 3
- HSC 301 - Theory of Innovative Healthcare Leadership Credits: 3
- HSC 401 - Application of Innovative Healthcare Leadership Credits: 2
- HSC 401L - Application of Innovative Healthcare Leadership Practicum Credits: 1
- HSC 451 - Innovative Healthcare Leadership Capstone Credits: 1
- HSC 451L - Innovative Healthcare Leadership Capstone Practicum Credits: 2
- HSC 452 - Interprofessional Issues in Health Care Credits: 3
- HSC 480 - Telehealth for the Interprofessional Team Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3
or LDR 310 - Leadership in Context (COM) Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- NURS 119 - First Year Seminar (COM) Credits: 2
- NURS 201 - Medical Terminology Credits: 1
or HIM 130 - Basic Medical Terminology Credits: 3 (DSU)

Select from the following

Students will select at least one focus area. Credits: 12-17

Focus Area #1: Health Sciences Minor

- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- HSC 212 - Contemporary Health Problems Credits: 2
- HSC 443 - Public Health Science Credits: 3
- HSC 445 - Epidemiology Credits: 3
- NURS 201 - Medical Terminology Credits: 1 (Major Requirement)
- Select 6 credits from the Health Science Minor electives list. Credits: 6

Focus Area #2: Health Communication Minor

- CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] Credits: 3
- CMST 440 - Health Communication (COM) Credits: 3
- CMST 441 - Current Issues in Health Communication Credits: 3
- HLTH 220 - Social Determinants of Health Credits: 3 (Major Requirement)

Select from the following

Select 6 credits from the following. Credits: 6

- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- HSC 212 - Contemporary Health Problems Credits: 2
- HSC/WMST 260 - Women's Health Issues Credits: 3
- HSC 402 - Rural Healthcare Matters Credits: 3
- NUTR 221 - Survey of Nutrition Credits: 3
or NUTR 315 - Human Nutrition (COM) Credits: 3
- SPAN 308 - Spanish for the Health Professions Credits: 3

Focus Area #3: Health Informatics and Information Management Minor (DSU)

- HIM 130 - Basic Medical Terminology Credits: 3 (DSU) (Major Requirement)
- HIM 150 - Introduction to Digital Health Informatics and Information Management Credits: 3 (DSU) (Major Requirement)
- HIM 225 - Digital Health Information Systems Credits: 3 (DSU)
- HIM 444 - Digital Health Technology Credits: 3 (DSU)

Select 2 courses for 6 credits from the following. Credits: 6

- HIM 265 - Health Data Quality and Outcomes Credits: 3 (DSU)
- HIM 364 - Healthcare Standards and Interoperability Credits: 3 (DSU)
- HIM 380 - Digital Health Data Analytics Credits: 3 (DSU)

- HIM 440 - Healthcare Information Governance Credits: 3 Credits: 3 (DSU)
- HIM 450 - Digital Health Informatics and Information Management Research Credits: 3 (DSU)

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 Requirements	4 Credit Hours
Major Requirements	58-62 Credit Hours
Electives**	27-31 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Healthcare Systems Engineering (B.S.)

Program Coordinator/Contact

Yucheng Liu, Duane Sander Endowed Professor and Department Head
Department of Mechanical Engineering
Crothers Engineering Hall 221, Box 2219
605-688-5426

Program Information

Healthcare Systems Engineering is a multidisciplinary field that encompasses a wide range of technologies to enhance human health and well-being. Healthcare Systems Engineering integrates engineering, computer science, data science, and health sciences. The B.S. in Healthcare Systems Engineering program prepares students for rapidly emerging technologies in artificial intelligence (AI) and machine learning (ML), big data and cybersecurity, health informatics, pharmaceutical development, genetic and tissue engineering, computational physiological modeling, imaging science, as well as healthcare infrastructure, environmental health and safety, rural health, e-health and telemedicine. This program provides students with a mastery of incorporating engineering principles and mathematical methods and using cutting-edge tools and techniques to bridge knowledge gaps between healthcare professionals and engineers.

Course Delivery Format

Instruction occurs through a combination of traditional classroom methods, laboratory exercises using contemporary engineering technologies, and design project experiences.

Requirements for Healthcare Systems Engineering Major: 130 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: INFO 102 - Data Ethics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Elective Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences:
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1
 - or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
 - BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
 - or BIOL 235 - Introduction to Biotechnology (COM) [SGR #6, HSDC] Credits: 2 and BIOL 235L - Introduction to Biotechnology Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3

- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- and BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- or VET 223 - Anatomy and Physiology of Domestic Animals Credits: 3 and VET 223L - Anatomy and Physiology of Domestic Animals Lab Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- CSC 150 - Computer Science I (COM) [HSDC] Credits: 3
- CSC 201 - Introduction to Modern Computing Credits: 2
- EE 300 - Basic Electrical Engineering I Credits: 2
- EE 300L - Basic Electrical Engineering I Lab Credits: 1
- EE 302 - Basic Electrical Engineering II Credits: 2
- EE 302L - Basic Electrical Engineering II Lab Credits: 1
- EE 422 - Engineering Economics and Management Credits: 2
- 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 [HSDC] Credits: 1
- GE 310 - Thinking in Systems Credits: 1
- GE 385 - Introduction to Systems Engineering and Management Credits: 3
- GE 478 - Healthcare Systems Engineering Capstone I Credits: 3
- GE 479 - Healthcare Systems Engineering Capstone II Credits: 3
- HIM 150 - Introduction to Digital Health Informatics and Information Management Credits: 3 (DSU)
- HIM 169 - Legal Aspects of Health Information Management Credits: 1 (DSU)
- HIM 225 - Digital Health Information Systems Credits: 3 (DSU)
- HSC 452 - Interprofessional Issues in Health Care Credits: 3
- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- ME 212 - Mechanical Engineering Design Technologies Credits: 2
- ME 314 - Thermodynamics Credits: 3
- NURS 201 - Medical Terminology Credits: 1
- or VET 183 - Veterinary Medical Terminology Credits: 1
- PHA 470 - Introduction to Drug Discovery and Development Credits: 3
- PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 209 - Fundamentals of Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 209L - Fundamentals of Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3

Technical Electives

Students must select 15-16 credits from the following courses including at least 6 credits from CSC, EE, or ME prefix. Students will be able to complete coursework in different emphasis areas including AI/Data, Animal Industry, Pre-Med, and Sensors and Devices. It is strongly recommended that students choose one of the emphasis areas. Credits: 15-16

Emphasis Areas:

¹ AI/Data

² Animal Industry

³ Pre-Med

⁴ Sensors and Devices

- AS 101 - Introduction to Animal Science Credits: 3 ²
- AS 101L - Introduction to Animal Science Lab Credits: 1 ²
- CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4 ²
- CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1 ²
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3 ³
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1 ³
- CHEM 326 - Organic Chemistry I (COM) Credits: 3 ³
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1 ³

- CHEM 328 - Organic Chemistry II (COM) Credits: 3³
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1³
- CHEM 464 - Biochemistry I (COM) Credits: 3³
- CSC 422 - Computer Vision and Pattern Recognition Credits: 3¹
- CSC 485 - AI Assisted Medical Image Processing Credits: 3¹
- EE 360 - Electronic Devices Credits: 3⁴
- EE 454 - Biomedical Instrumentation and Electrical Safety Credits: 3⁴
- EE 460 - Sensor and Measurements Credits: 2⁴
- EE 460L - Sensor and Measurements Lab Credits: 1⁴
- HSC 445 - Epidemiology Credits: 3²
or VET 403 - Animal Diseases and Their Control Credits: 3²
- MATH 250 - Introduction to Linear Algebra and Proof Credits: 3¹
- ME 321 - Fundamentals of Machine Design Credits: 3⁴
- ME 442 - Applications of Computational Fluid Dynamics Credits: 3³
- ME 446 - Engineering Mechanics in Biomedical Applications Credits: 3^{3,4}
- ME 448 - Mechanical Behavior of Biomaterials Credits: 3^{3,4}
- NURS 463 - Systems-Based Practice in Healthcare Credits: 3³
- STAT 415 - R Programming Credits: 3¹
- STAT 435 - Applied Bioinformatics Credits: 3¹
- STAT 442 - Exploratory and Cloud-Based Data Analysis Credits: 3¹
- STAT 451 - Predictive Analytics I Credits: 3¹
- Other courses with department approval

Total Required Credits: 130

Summary of Program Requirements

Bachelor of Science

System General Education Requirements*	32-33 Credit Hours
Major Requirements	97-98 Credit Hours
Electives**	0 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

History (B.A./B.S.)

Program Coordinator/Contact

Dale Potts, Associate Professor of History
School of American and Global Studies
Lincoln Hall 215, Box 2212
605-688-6345

Program Information

As a foundational discipline, history bridges different fields across the campus, providing students with multiple approaches to, and increased engagement with, a complex world. The sequence of survey courses in the B.A. and B.S. degree in history grounds students in U.S. history, western civilization, and world civilizations. Upper-division courses provide opportunities to learn about different eras and cultures throughout history. Major/minor and double major combinations that incorporate modern languages, global studies, political science, American Indian and Indigenous Studies, Religion, and English can prepare students for work in a variety of fields that promote interactions with the cultures of the world. Each of the emphases below, through their focus on research and critical analysis, provide the necessary foundation for graduate school programs or specialized professional occupations, as well as the communication and professional skills today's employers demand. Students majoring in history will complete one of the following five emphases:

- Ancient, Medieval, and Early Modern Emphasis - focuses on the period before 1700 to understand how modern cultures and societies developed from and are influenced by their early origins.
- Conflict and Society Emphasis - focuses on conflict as a continual factor in history while trying to understand its causes and potential resolutions.
- Cultural History Emphasis - focuses on examining history through different cultural points of view across time and place to promote better understanding of similarities and differences.
- Professional History Emphasis - combines the study of history with a focus toward developing practical skills, application, and experiential learning.
- America and the World Emphasis - focuses on a more traditional but flexible balance between US and World history courses.

Course Delivery Format

The program offers both online and on-campus courses.

Academic Requirements

- Students must earn a grade of "C" or better in all major requirements.
- No more than 6 credits in HIST 491 - Independent Study (COM), HIST 494 - Internship (COM), and HIST 496 - Field Experience (COM) may be counted toward the major.

Requirements for History 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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

Major Requirements

- HIST 111 - World Civilizations I (COM) [SGR #4, HSDC] Credits: 3
or HIST 121 - Western Civilization I (COM) [SGR #4, HSDC] Credits: 3
- HIST 112 - World Civilizations II (COM) [SGR #4, HSDC] Credits: 3
or HIST 122 - Western Civilization II (COM) [SGR #4, HSDC] Credits: 3
- HIST 151 - United States History I (COM) [SGR #3, HSDC] [CIV] Credits: 3
- HIST 152 - United States History II (COM) [SGR #3, HSDC] [CIV] Credits: 3
- HIST 280 - Writing History (COM) Credits: 3
- HIST 480 - Historical Methods and Historiography (COM) Credits: 3 (Capstone)
- HIST 494 - Internship (COM) Credits: 1-12 (3 credits required)
or HIST 496 - Field Experience (COM) Credits: 1-6 (3 credits required)
or HIST 300-400 Level Elective Credits: 3

Elective Requirements

18 credits total are required within one of the following emphasis categories below: Ancient, Medieval, & Early Modern; Conflict & Society; Cultural History; Professional History; or America & the World. A maximum of 6 credits from a non-HIST prefix will be accepted towards the elective requirements. Credits: 18

Ancient, Medieval, and Early Modern

Select 18 credits from the following. Credits: 18

- HIST 301 - Jesus Remembered - Gospels Credits: 3
- HIST 305 - Apocalypses 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 492 - Topics (COM) Credits: 1-4 (3 credits required)
- ENGL 330 - Shakespeare (COM) Credits: 3
- REL 224 - Old Testament [SGR #4, HSDC] Credits: 3
- REL 225 - New Testament (COM) [SGR #4, HSDC] Credits: 3
- SPAN 472 - Early Modern Spain Credits: 3

Conflict and Society

Select 18 credits from the following. Credits: 18

- HIST 326 - Renaissance and Reformation (COM) Credits: 3
- HIST 341 - English History to 1688 (COM) Credits: 3
- HIST 348 - Religion in American History (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 368 - History and Culture of the American Indian (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 422 - Ancient Rome (COM) Credits: 3
- HIST 425 - Medieval Europe (COM) Credits: 3
- HIST 440 - Ancient Greece (COM) Credits: 3
- HIST 445 - Nazi and Soviet Europe 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 - Westward Expansion of the U.S. (COM) Credits: 3
- HIST 492 - Topics (COM) Credits: 1-4 (3 credits required)
- POLS 253 - Current World Issues [SGR #3, HSDC] Credits: 3
- POLS 447 - Latin American Politics (COM) Credits: 3
- POLS 458 - Democracy and Authoritarianism (COM) Credits: 3

Cultural History

Select 18 credits from the following. Credits: 18

- HIST 305 - Apocalypses Credits: 3
- HIST 326 - Renaissance and Reformation (COM) Credits: 3
- HIST 348 - Religion in American History (COM) Credits: 3
- HIST 349 - Women in American History (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 368 - History and Culture of the American Indian (COM) Credits: 3
- HIST 373 - Oral History Credits: 3
- HIST 378 - Folklore and Popular Culture of the U.S. 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 409 - Environmental History of the U.S. (COM) Credits: 3
- HIST 415 - Women in Antiquity (COM) Credits: 3
- HIST 419 - World Environmental History (COM) Credits: 3
- HIST 455 - American Civil War and Reconstruction (COM) Credits: 3
- HIST 465 - Westward 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 492 - Topics (COM) Credits: 1-4 (3 credits required)
- FREN 433 - French Culture and Civilization Credits: 3
- GER 435 - German Cultural History (COM) Credits: 3

- GLST 401 - Global Cultures and Identities Credits: 3
- POLS 447 - Latin American Politics (COM) Credits: 3
- POLS 458 - Democracy and Authoritarianism (COM) Credits: 3
- SPAN 359 - Hispanic/Latinx Experiences in the US Credits: 3
- SPAN 433 - Spanish Civilization and Culture (COM) Credits: 3
- SPAN 435 - Latin American Civilization and Culture Credits: 3

Professional History

Select 18 credits from the following. Credits: 18

- HIST 368 - History and Culture of the American Indian (COM) Credits: 3
- HIST 373 - Oral History Credits: 3
- HIST 378 - Folklore and Popular Culture of the U.S. Credits: 3
- HIST 406 - Experimental History in the Ancient World Credits: 3
- HIST 409 - Environmental History of the U.S. (COM) Credits: 3
- HIST 419 - World Environmental History (COM) Credits: 3
- HIST 476 - History of South Dakota (COM) Credits: 3
- HIST 492 - Topics (COM) Credits: 1-4 (3 credits required)
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- GEOG 383 - Cartography Credits: 2
- GEOG 383L - Cartography Lab Credits: 1
- GEOG 405 - Historical Geography Credits: 3
- POLS 210 - State and Local Government (COM) [SGR #3, HSDC] [CIV] Credits: 3

America & the World

Students pursuing the America & the World emphasis must select 6 credits of 300-400 level U.S. History, 6 credits of 300-400 level World History, and 6 additional credits of 300-400 level History from the US or World History Electives list. Credits: 18

US History Electives

Select six credits from the following. Credits: 6

- HIST 348 - Religion in American History (COM) Credits: 3
- HIST 349 - Women in American History (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 368 - History and Culture of the American Indian (COM) Credits: 3
- HIST 373 - Oral History Credits: 3
- HIST 378 - Folklore and Popular Culture of the U.S. Credits: 3
- HIST 409 - 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 - Westward 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
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- GEOG 383 - Cartography Credits: 2
- GEOG 383L - Cartography Lab Credits: 1
- GEOG 405 - Historical Geography Credits: 3
- SPAN 359 - Hispanic/Latinx Experiences in the US Credits: 3

World History Electives

Select six credits from the following. Credits: 6

- HIST 301 - Jesus Remembered - Gospels Credits: 3
- HIST 305 - Apocalypses 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 419 - World Environmental History (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 - Nazi and Soviet Europe Credits: 3
- POLS 447 - Latin American Politics (COM) 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**	6+ Credit Hours
Major Requirements	39 Credit Hours
Electives***	45 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	39 Credit Hours
Electives***	47 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

History (B.A./B.S.) - Teaching Specialization

Program Coordinator/Contact

Dale Potts, Associate Professor of History
School of American and Global Studies
Lincoln Hall 215, Box 2212
605-688-6345

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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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 both online and on-campus courses.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- A grade of "C" or better is required in academic major coursework (classes with GEOG, HIST, or POLS prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and 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.

Requirements for History Major - Teaching Specialization: 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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

Major Requirements

- HIST 111 - World Civilizations I (COM) [SGR #4, HSDC] Credits: 3
or HIST 121 - Western Civilization I (COM) [SGR #4, HSDC] Credits: 3

- HIST 112 - World Civilizations II (COM) [SGR #4, HSDC] Credits: 3 or HIST 122 - Western Civilization II (COM) [SGR #4, HSDC] Credits: 3
- HIST 151 - United States History I (COM) [SGR #3, HSDC] [CIV] Credits: 3
- HIST 152 - United States History II (COM) [SGR #3, HSDC] [CIV] 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)

Upper-Level Elective Requirements

Select 6 credits of 300-400 level U.S. History, 6 credits of 300-400 level World History, and 3 additional credits of 300-400 level History from the US or World History Electives. Credits: 15

** Approved internship credits (HIST 494) taken in another country or focused on a World History (non-US) subject will count as upper-level World History Elective credits; approved internship credits taken in the US and focused on US history will count as upper-level US History Elective credits.

A maximum of 6 credits from a non-History prefix will be accepted towards the upper-level elective requirements.

US History Electives

Select 6 credits from the following. Credits: 6

- HIST 349 - Women in American History (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 368 - History and Culture of the American Indian (COM) Credits: 3
- HIST 373 - Oral History Credits: 3
- HIST 378 - Folklore and Popular Culture of the U.S. Credits: 3
- HIST 409 - 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 - Westward 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) **
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- GEOG 383 - Cartography Credits: 2
- GEOG 383L - Cartography Lab Credits: 1
- GEOG 405 - Historical Geography Credits: 3
- SPAN 359 - Hispanic/Latinx Experiences in the US Credits: 3

World History Electives

Select six credits from the following. Credits: 6

- HIST 301 - Jesus Remembered - Gospels Credits: 3
- HIST 305 - Apocalypses 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 419 - World Environmental History (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 - Nazi and Soviet Europe Credits: 3
- HIST 494 - Internship (COM) Credits: 1-12 (3 credits required) **
- POLS 447 - Latin American Politics (COM) Credits: 3
- POLS 458 - Democracy and Authoritarianism (COM) Credits: 3

Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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 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
- SPED 100 - Introduction to Persons with Exceptionalities (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**	6+ Credit Hours
Major Requirements	36 Credit Hours
Teaching Specialization Requirements	40 Credit Hours
Electives***	8 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	36 Credit Hours
Teaching Specialization Requirements	40 Credit Hours
Electives***	10 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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

Karen Sanguinet, Klingbeil Endowed Department Head
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.

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6 (AFES 203 - Global Food Systems [SGR #3, HSDC] Credits: 3 is a highly recommended course.)
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences:
 - BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2 and BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1 or BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
 - BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits: 2 and BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- BOT 327 - Plant Physiology Credits: 3
- BOT 327L - Plant Physiology Lab Credits: 1
- CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3
- CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4
- CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1
- HO 111 - Introduction to Horticulture Credits: 2
- HO 111L - Introduction to Horticulture Lab Credits: 1
- HO 210/ PS 210 - Turf and Weed Management in Horticulture Credits: 2
- HO/ PS 210L - Turf and Weed Management in Horticulture Lab Credits: 1
- HO/ PS 255 - Woody Plants Credits: 3
- HO/ PS 255L - Woody Plants Lab Credits: 1
- HO/ PS 311 - Herbaceous Plants Credits: 2
- HO/ PS 311L - Herbaceous Plants Lab Credits: 1
- HO/ PS 329 - Horticultural Pests Credits: 3
- HO/ PS 339 - Arboriculture and Urban Forestry Credits: 3
- HO/ PS 411 - Fruit Crop Systems Credits: 1-6 (2 credits required) or HO/PS 444 - Vegetable Crop Systems Credits: 1-6 (2 credits required)
- HO/ PS 413 - Greenhouse and High Tunnel Management Credits: 2
- HO/ PS 413L - Greenhouse and High Tunnel Management Lab Credits: 1
- HO 414 - Plant Propagation Credits: 2
- HO 414L - Plant Propagation Lab Credits: 1
- HO 416 - Landscape Nursery Management Credits: 3
- HO/ PS 434 - Local Food Production Credits: 2
- HO/ PS 435 - Local Food Production: Harvest and Storage Credits: 2
- HO/ PS 447 - Organic Plant Production Credits: 3
- HO 475 - Senior Capstone 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 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3
- PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1
- PS 119 - First Year Seminar Credits: 1
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- PS 223 - Principles of Plant Pathology Credits: 2
- PS 223L - Principles of Plant Pathology Lab Credits: 1
- PS 405 - Entomology (COM) Credits: 2
- PS 405L - Entomology Lab (COM) Credits: 1
- Technical Electives - Select 15 credits from 200 and above level courses with ACCT, AGECE, BADM, BLAW, BOT, ECON, ENTR, FIN, FS, MGMT, MICR, MKTG prefix, or 300 and above level courses with HO or AST prefix, or any course with LA or NUTR prefix. Courses selected for Technical Electives cannot be used to fulfill the Core requirements in the Horticulture major. Credits: 15

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*	30-31 Credit Hours
Major Requirements	84 Credit Hours
Electives**	5-6 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

Hospitality, Tourism, and Event Management (B.S.)

Program Coordinator/Contact

Kunsoo Park, Associate Professor
School of Health and Human Sciences
Wagner Hall 425, Box 2275A
605-688-5223

Program Information

The mission of the Hospitality, Tourism, and Event Management program is to develop visionary leaders and successful professionals in the Hospitality, Tourism, and Event industry. The curriculum exposes students to many aspects of the hospitality, tourism, and event 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, tourism, and event industry and to instill in them the critical skills required in today's workplace.

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.

Academic Requirements

A grade of a "C" or better is required in all HMGD and NUTR courses.

Requirements for Hospitality, Tourism, and Event Management Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3

- Goal #4 Arts and Humanities: 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

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3
- FIN 310 - Business Finance (COM) Credits: 3
- HMG 171 - Introduction to Hospitality, Tourism, and Event Industry Credits: 3
- HMG 251 - Foodservice Sanitation Credits: 1
- HMG 282 - Customer Service Credits: 3
- HMG 295 - Practicum (COM) Credits: 2
- HMG 355 - Events and Facilities Administration Credits: 3
- HMG 361 - Hospitality Industry Law Credits: 3
- HMG 370 - Lodging Management Credits: 3
- HMG 375 - International Tourism Credits: 3
- HMG 380 - Foodservice Operations and Purchasing Management Credits: 3
- HMG 381 - Quantity Food Production and Service Credits: 1
- HMG 381L - Quantity Food Production and Service Lab Credits: 3
- HMG 455 - Advanced Events and Facilities Administration Credits: 3
- HMG 472 - Hospitality Facilities Management and Design Credits: 3
- HMG 482 - Hospitality Marketing Credits: 3
- HMG 495 - Practicum (COM) Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- MGMT 325 - Management Information Systems (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- NUTR 141 - Foods Principles Credits: 3
- NUTR 141L - Foods Principles Lab 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 Sciences Requirements	4 Credit Hours
Major Requirements	74 Credit Hours
Electives**	12 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Human Biology (B.S.)

Program Coordinator/Contact

Jeremy Chambers, 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.)

Course Delivery Format

Program coursework is on campus, in classroom and laboratories, as well as field-based settings. Limited coursework is available online.

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.

Requirements for Human Biology Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 115 - Precalculus (COM) [SGR #5, HSDC] 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 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 (Major Requirements), BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirements), BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 (Major Requirements), and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirements)

Major Requirements

- BIOL 119 - First Year Seminar Credits: 2
- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 202 - Genetics and Molecular Biology Credits: 3
- BIOL 202L - Genetics and Molecular Biology Lab Credits: 1
- BIOL 204 - Introduction to Cell Biology (COM) Credits: 3
- BIOL 204L - Introduction to Cell Biology Lab (COM) Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 290 - Seminar (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- BIOL 383 - Bioethics (COM) Credits: 4
- MICR 233 - Introductory Microbiology Credits: 3
- MICR 233L - Introductory Microbiology Lab Credits: 1
- MICR 439 - Medical and Veterinary Immunology Credits: 3

Select from the following

Select five courses from the following list. Credits: 15-20

- BIOL 470 - Cancer Biology (COM) Credits: 3
- BIOL 476 - Advanced Mammalian Physiology Credits: 4
- BIOL 483 - Developmental Biology (COM) Credits: 3
- BIOL 494 - Internship (COM) Credits: 1-12 (3 credits required. Max of 3 credits allowed.)
- BIOL 498 - Research (COM) Credits: 1-12 (3 credits required. Max of 3 credits allowed.)
- CHEM 448 - Biophysical Chemistry Credits: 3
- CHEM 448L - Biophysical Chemistry Lab Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- EXS 454 - Biomechanics (COM) Credits: 2
- EXS 454L - Biomechanics Lab (COM) Credits: 1
- HLTH 364 - Emergency Medical Technician (COM) Credits: 3
- HLTH 364L - Emergency Medical Technician Lab (COM) Credits: 1
- HSC 445 - Epidemiology Credits: 3
- MICR 424 - Medical and Veterinary Virology Credits: 3
- MICR 433 - Medical Microbiology (COM) Credits: 3
- MICR 440L - Infectious Disease Lab Credits: 3

- MICR 448 - Molecular and Microbial Genetics Credits: 4
- NUTR 422 - Advanced Human Nutrition and Metabolism Credits: 4
- PHA 352 - Pathophysiology, Pharmacology and Toxicology I Credits: 3

Supporting Coursework

- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- PHYS Elective Credits: 4 (Consult adviser as many professional schools require PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3, PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1, PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3, and PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1)
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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*	24-26 Credit Hours
Major Requirements	53-58 Credit Hours
Supporting Coursework	23 Credit Hours
Electives**	13-20 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Human Development and Family Science (B.S.)

Program Coordinator/Contact

Erin S. Lavender-Stott, Associate Professor
School of Education, Counseling and Human Development
Wenona Hall 202
605-688-5385

Program Information

The mission of the B.S. in Human Development and Family Science is to enhance the health and well-being of individuals, families, and communities across the lifespan through integration of transdisciplinary research, teaching, service, and community outreach and engagement. 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 Science 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 Centers, Youth Organization Worker, Program Director for Youth, Family or Senior Citizen Center.

Course Delivery Format

Courses are delivered face-to-face, online, and through field experience.

Academic Requirements

A pre-graduation check is required by end of junior year. A Graduation Application must be completed at the 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" in courses in the major

cannot be counted and the course must be repeated. Any required course with a department/program prefix is considered a course in the major.

Requirements for Human Development and Family 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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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

- CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] 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 327 - Research and Evaluation Methods Credits: 3
- HDFS 341 - Family Theories Credits: 3
- HDFS 410 - Parenting Credits: 3
- HDFS 425 - Family Resiliency Credits: 3
- HDFS 435 - Family Policy Credits: 3
- HDFS 487 - Professional Development Credits: 3
- HDFS 495 - Practicum (COM) Credits: 6

Supporting Coursework

- ENGL 379 - Technical Communication (COM) Credits: 3
- FCSE 421 - Adult Education Credits: 3
- GERO 201 - Introduction to Gerontology Credits: 3
- POLS 100 - American Government (COM) [SGR #3, HSDC] [CIV] Credits: 3 or ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 or ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3
- SOC 308 - Research Methods II (COM) Credits: 3 or STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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	47 Credit Hours
Supporting Coursework	21 Credit Hours
Electives**	18 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Human Development and Family Services (A.S.)

Program Coordinator/Contact

Erin S. Lavender-Stott, Associate Professor
School of Education, Counseling and Human Development
Wenona Hall 202
605-688-5385

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.

Course Delivery Format

Program courses are available face-to-face and online.

Academic Requirements

Students must receive a C or better grade in all HDFS prefix courses.

Requirements for Human Development and Family Services Major: 60 Credits

Associate of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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 141 - Individual and the Family [SGR #3, HSDC] Credits: 3
- HDFS 150 - Early Experience Credits: 2
- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] 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

Supporting Coursework

- GERO 201 - Introduction to Gerontology Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] 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	9 Credit Hours
Electives**	1 Credit Hours

**Taken as needed to complete any additional degree requirements.

Interdisciplinary Studies (B.A./B.S.)

Program Coordinator/Contact

Jason McEntee, Director
School 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 school 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.

Course Delivery Format

Three of the required courses (ENGL 379, IDL 479, and ACS 489) are delivered entirely online. One of the required courses, CMST 410, is offered face-to-face/in person. CMST 410 is also offered entirely online during the summer. 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.

Academic Requirements

Grade of "C" or higher is required for IDL 479.

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

Major Requirements

- ACS 489 - Transition to Careers Credits: 1
- CMST 410 - Organizational Communication (COM) Credits: 3 or ENGL 379 - Technical Communication (COM) 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**	6+ Credit Hours
Major Requirements	40 Credit Hours
Electives***	44 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	40 Credit Hours
Electives***	46 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Interior Design (B.F.A.)

Program Coordinator/Contact

Jimena Vivas, Assistant Professor of Practice
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
605-688-4103

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.

Accreditation

South Dakota State University offers the only four-year Interior Design degree in South Dakota accredited by the Council for Interior Design Accreditation (CIDA). This accreditation begins the NCIDQ certification process. The program is also accredited by National Association of Schools of Art and Design.

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.

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.

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.

Requirements for Interior Design Major: 120 Credits

Bachelor of Fine Arts

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences: PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3 or SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: ARTH 211 - History of World Art I (COM) [SGR #4, HSDC] Credits: 3 and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Electives Credits: 3
- Goal #6 Natural Sciences: GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3, GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1, GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3, and GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1

College of Arts, Humanities and Social Sciences Requirements

Bachelor of Fine Arts Requirements

- 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 and 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, HSDC] 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, DSGN 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, HSDC] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4, HSDC] 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 - Topics (COM) Credits: 1-9 (3 credits required) (Illustration)
- ART 492 - Topics (COM) Credits: 1-9 (3 credits required) (Letterpress)
- ARTH 212 - History of World Art II (COM) [SGR #4, HSDC] 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)
- DSGN 482 - Travel Studies Credits: 1-5 (3 credits required)
- GDES 207 - Interactive Design I Credits: 3
- GDES 216 - Typography Credits: 3

Major Requirements

- ARCH 230 - Design Material and Assembly Credits: 2
- ARCH 230L - Design Material and Assembly Lab Credits: 1
- DSGN 482 - Travel Studies Credits: 1-5 (2 credits required)
- GDES 101 - Computer Graphics [HSDC] Credits: 3
- ID 112 - Drafting and Visualization Credits: 3
- 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 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 495 - Practicum (COM) Credits: 3

Supporting Coursework

- ART 111 - Drawing I (COM) [SGR #4, HSDC] 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	0 Credit Hours
School of Design Requirements**	14 Credit Hours
Major Requirements	65 Credit Hours
Electives***	9 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, College Requirements, and School Requirements.

**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.

Journalism (B.A./B.S.)

Program Coordinator/Contact

Rebecca A. Kuehl, Associate Director
 Erica Quam, Professional Academic Advisor
 School of Communication and Journalism
 Yeager Hall 211
 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, and designers for print, broadcast or online media, photojournalists, or communicators in government, with non-profit organizations or in the corporate world.

Accreditation

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).

Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

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.

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.

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and 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 - Basic Media Writing (COM) Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- MCOM 220 - Introduction to Digital Media (COM) Credits: 3
- MCOM 265 - Basic Photography (COM) Credits: 3
- MCOM 270 - Data Analysis in Communication Credits: 3
- MCOM 311 - News Editing (COM) Credits: 3
- MCOM 317 - Multimedia Reporting (COM) Credits: 3
- MCOM 333 - Broadcast News Reporting 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 - Mass Media in Society Credits: 3
- MCOM 430 - Media Law (COM) Credits: 3
- MCOM 434 - Advanced Multiplatform Storytelling Credits: 3 (Capstone)
- MCOM 495 - Practicum (COM) Credits: 1-4 (2 credits required)

Select from the following

Select 6 credits from the following MCOM or PUBR Electives. Credits: 6

- MCOM 266 - Photojournalism (COM) Credits: 3
- MCOM 331 - Video Production (COM) Credits: 3
- MCOM 410 - Advanced Reporting (COM) Credits: 3
- MCOM 412 - Cultural Issues in Mass Communication Credits: 3
- MCOM 413 - International Media (COM) Credits: 3
- MCOM 420 - Indigenized Media: Rising Voices in Digital Storytelling Credits: 3
- MCOM 438 - Watchdog Reporting Credits: 3
- MCOM 474 - Entrepreneurial Media Credits: 3

- MCOM 491 - Independent Study (COM) Credits: 1-4 (3 credits required)
- MCOM 492 - Topics (COM) Credits: 1-5 (3 credits required)
- MCOM 495 - Practicum (COM) Credits: 1-4 (1 credit required)
- MCOM 498 - Research (COM) Credits: 1-4 (3 credits required)
- PUBR 243 - Public Relations Principles (COM) Credits: 3
or 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**	6+ Credit Hours
Major Requirements	46 Credit Hours
Electives***	38 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	46 Credit Hours
Electives***	40 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Landscape Architecture (B.L.A.)

Program Coordinator/Contact

Elizabeth Tofte, Associate Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
605-688-4103

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.

Accreditation

The Landscape Architecture program is fully accredited through the Landscape Architecture Accreditation Board (LAAB).

Certification and Licensure

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.

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.

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: SGR #3 Electives Credits: 6

- Goal #4 Arts and Humanities: DSGN 121 - Design I 2D (COM) [SGR #4, HSDC] Credits: 3 and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences: BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2, BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1, and SGR #6 Elective Credits: 3

College of Arts, Humanities and Social Sciences Requirements

Bachelor of Landscape Architecture Requirements

- 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 and 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, HSDC] 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, DSGN 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 112 - Drawing II (COM) [SGR #4, HSDC] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4, HSDC] 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 - Topics (COM) Credits: 1-9 (3 credits required) (Illustration)
- ART 492 - Topics (COM) Credits: 1-9 (3 credits required) (Letterpress)
- ARTH 211 - History of World Art I (COM) [SGR #4, HSDC] Credits: 3
- ARTH 212 - History of World Art II (COM) [SGR #4, HSDC] 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)
- DSGN 482 - Travel Studies Credits: 1-5 (3 credits required)
- GDES 207 - Interactive Design I Credits: 3
- GDES 216 - Typography Credits: 3

Major Requirements

- ARCH 230 - Design Material and Assembly Credits: 2
- ARCH 230L - Design Material and Assembly Lab Credits: 1
- DSGN 253 - Site Analysis and Surrounding Credits: 3
- GDES 101 - Computer Graphics [HSDC] 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 242 - People and the Environment Credits: 3
- 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 - Research (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 6 credits of Technical Electives. All technical electives must be approved by advisor. Credits: 6

- ARCH 241 - Construction History [SGR #4, HSDC] Credits: 3
- ART 111 - Drawing I (COM) [SGR #4, HSDC] Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4, HSDC] 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 203 - Animation Foundations I Credits: 3
- GDES 216 - Typography Credits: 3
- HO 311 - Herbaceous Plants Credits: 2
- HO 311L - Herbaceous Plants Lab Credits: 1
- 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 - Research (COM) Credits: 1-3

Supporting Coursework

- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- HO 255 - Woody Plants Credits: 3
- HO 255L - Woody Plants Lab Credits: 1

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	0 Credit Hours
School of Design Requirements**	11 Credit Hours
Major Requirements	69 Credit Hours
Supporting Coursework	7 Credit Hours
Electives***	3 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, College Requirements, and School Requirements.

**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.

Leadership and Management of Nonprofit Organizations (B.S.)

Program Coordinator/Contact

Kimberly Gustafson, Lecturer
School of Health and Human Sciences
Wagner Hall 409
605-688-5161

Program Information

The Leadership and Management of Nonprofit Organizations major's mission is empowering students to become successful leaders for nonprofit impact through a

comprehensive educational curriculum, experiential learning, and community engagement. The Leadership and Management of Nonprofit Organizations (LMNO) program, prepares students with opportunities to increase their abilities and skills in the work of leadership and nonprofit operations. Students will develop a comprehensive understanding of the nonprofit sector. They will also learn fundraising best practices, examine volunteer management techniques, and apply leadership and team development strategies. To further student personal and professional skills, students will complete a 3 credit internship experience at a nonprofit organization related to their specific career interest.

Upon completion of the undergraduate program, students may also earn the Certified Nonprofit Professional credential with the Nonprofit Leadership Alliance organization. This certification requirements are listed in the section below.

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.

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 a 120-hour internship with a nonprofit organization, volunteering a minimum of 20 hours, passing a credentialing exam, and attending a national nonprofit conference.

Academic Requirements

Students will complete all LMNO and LDR coursework with a C or better.

Requirements for Leadership and Management of Nonprofit Organizations Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: POLS 210 - State and Local Government (COM) [SGR #3, HSDC] [CIV] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] 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 230 - Consumer Engagement Credits: 3
- FIN 310 - Business Finance (COM) Credits: 3
- HDFS 255 - Program Design, Implementation and Evaluation Credits: 3
or MGMT 334 - Small Business Management (COM) Credits: 3
- HDFS 327 - Research and Evaluation Methods Credits: 3
- HMG 355 - Events and Facilities Administration 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 435 - Organizational Leadership and Team Development Credits: 3
- 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 494 - Internship (COM) Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- MGMT 360 - Organization and Management (COM) 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
College of Education and Human Sciences Requirements	4 Credit Hours
Major Requirements	57 Credit Hours
Electives**	29 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Mathematics (B.S.)

Program Coordinator/Contact

Eun Heui Kim, Department Head
Donna Flint, Assistant Department Head
Department of Mathematics and Statistics
Chicoine Architecture, Mathematics and Engineering Hall 209
605-688-6196

Program Information

The Mathematics 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 Applied Mathematics Concentration, the Actuarial/Financial Concentration, and the Open Concentration. Also available are specializations in Data Science and Teaching. The flexible, specialized paths are available that lead to the best career options open to mathematicians and statisticians.

Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

Academic Requirements

A grade of "C" or above is required in all MATH and STAT courses.

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4 (Major Requirement)
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

Major Requirements

- MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- MATH 198 - Mathematics Professions 1 (COM) Credits: 1
- MATH 225 - Calculus III (COM) [SGR #5, HSDC] Credits: 4
- MATH 230 - Mathematics Professions 2 Credits: 1
- MATH 250 - Introduction to Linear Algebra and Proof Credits: 3

- MATH 253 - Logic, Sets, and Proof Credits: 4
- MATH 301 - Mathematics Professions 3 Credits: 2
- MATH 316 - Discrete Mathematics (COM) Credits: 3 or MATH 321 - Differential Equations (COM) Credits: 3
- MATH 401 - Mathematics Professions 4 Credits: 1-2 (1 credit required)
- 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: 15

Select from the following

Select two of the following courses. Credits: 6

- MATH 412 - Linear Algebra (COM) Credits: 3
- MATH 413 - Abstract Algebra I (COM) Credits: 3
- MATH 425 - Real Analysis I (COM) Credits: 3

Supporting Coursework

- CSC 150 - Computer Science I (COM) [HSDC] Credits: 3 or INFO 101 - Introduction to Informatics [HSDC] 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*	27 Credit Hours
Major Requirements	51 Credit Hours
Supporting Coursework	3 Credit Hours
Electives**	39 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Mathematics (B.S.) - Data Science Specialization

Program Coordinator/Contact

Eun Heui Kim, Department Head
Donna Flint, Assistant 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 sciences. 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 the pursuit of a master's degree or a Ph.D. in mathematics, statistics, or data science.

Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

Academic Requirements

A grade of "C" or above is required in all MATH and STAT courses.

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4 (Major Requirement)
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

Major Requirements

- MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- MATH 198 - Mathematics Professions 1 (COM) Credits: 1
- MATH 225 - Calculus III (COM) [SGR #5, HSDC] Credits: 4
- MATH 230 - Mathematics Professions 2 Credits: 1
- MATH 250 - Introduction to Linear Algebra and Proof Credits: 3
- MATH 253 - Logic, Sets, and Proof Credits: 4
- MATH 301 - Mathematics Professions 3 Credits: 2
- MATH 321 - Differential Equations (COM) Credits: 3
- MATH 401 - Mathematics Professions 4 Credits: 1-2 (1 credit required)
- MATH 412 - Linear Algebra (COM) Credits: 3
- 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 - 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 - Advanced Linear Algebra (COM) Credits: 3
- MATH 475 - Operations Research (COM) Credits: 3
- STAT 383 - Geospatial Data Analysis Credits: 3
- STAT 410 - SAS Programming Credits: 3
- STAT 414 - Basic R Programming Credits: 1
- STAT 415 - R Programming Credits: 3
- STAT 442 - Exploratory and Cloud-Based Data Analysis Credits: 3
- STAT 445 - Nonparametric Statistics (COM) Credits: 3
- STAT 451 - Predictive Analytics I Credits: 3
- STAT 453 - Applied Bayesian Statistics Credits: 3
- STAT 460 - Time Series Analysis (COM) Credits: 3
- STAT 482 - Mathematical Statistics Credits: 3

Supporting Coursework

- CSC 150 - Computer Science I (COM) [HSDC] 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*	27 Credit Hours
Major Requirements	66 Credit Hours
Supporting Coursework	3 Credit Hours
Electives**	24 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Mathematics (B.S.) - Teaching Specialization

Program Contact/Coordinator

Eun Heui Kim, Department Head
Donna Flint, Assistant 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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- A grade of "C" or better is required in academic major coursework (classes with MATH or STAT prefix).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

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: AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3 (Teaching Specialization Requirement) and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Elective Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

Major Requirements

- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- MATH 198 - Mathematics Professions 1 (COM) Credits: 1
- MATH 225 - Calculus III (COM) [SGR #5, HSDC] Credits: 4
- MATH 230 - Mathematics Professions 2 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 301 - Mathematics Professions 3 Credits: 2
- MATH 316 - Discrete Mathematics (COM) Credits: 3
- MATH 355 - Methods of Teaching Mathematics Credits: 4
- MATH 371 - Technology for STEM Educators Credits: 2
- MATH 413 - Abstract Algebra I (COM) Credits: 3
- MATH 425 - Real Analysis I (COM) Credits: 3
- MATH 433 - HS Math: Advanced Perspectives 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, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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
- 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
- SPED 100 - Introduction to Persons with Exceptionalities (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*	28 Credit Hours
Major Requirements	47 Credit Hours
Teaching Specialization Requirements	37 Credit Hours
Electives**	8 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Mechanical Engineering (B.S.)

Program Coordinator/Contact

Yucheng Liu, Duane Sander Endowed Professor and 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.

Accreditation

The Mechanical Engineering (B.S.) program at SDSU is accredited by the Engineering Accreditation Commission of ABET.

Certification and Licensure

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/>.

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.

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 207, 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.

Requirements for Mechanical Engineering Major: 130 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Elective Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences: CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3, CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1, PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3, and PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- ME 121 - Production and Fabrication Processes Credits: 1
- ME 121L - Production and Fabrication Processes Lab Credits: 1
- ME 212 - Mechanical Engineering Design Technologies Credits: 2
- ME 230 - Engineering Design Methods Credits: 3
- ME 241 - Engineering Materials Credits: 3

- ME 301 - Engineering Ethics and Economics Credits: 1
- 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 - Measurements and Materials Characterization Lab Credits: 1
- ME 377 - Thermodynamics and Fluid Mechanics Lab Credits: 1
- ME 415 - Heat Transfer Credits: 3
- ME 421 - Design of Machine Elements Credits: 3
- ME 451 - Automatic Controls Credits: 3
- ME 452 - Mechatronics and Vibrations Lab Credits: 1
- ME 476 - Machine Components and Heat Transfer Lab Credits: 1
- ME 478 - Mechanical Systems Design I Credits: 3
- ME 479 - Mechanical Systems Design II (COM) Credits: 3

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 - Ag Power and Machines Credits: 3
- ABE 314L - Ag Power and Machines Lab Credits: 1
- ABE 350 - Hydraulic Systems Credits: 2
- ABE 350L - Hydraulic and Pneumatic Systems Lab Credits: 1
- GE 210 - Geometric Dimensioning and Tolerancing Credits: 2
- ME 341 - Metallurgy Credits: 3
- ME 362 - Industrial Engineering Credits: 3
- ME 410 - Principles of HVAC Engineering Credits: 3
- ME 412 - Internal Combustion Engines Credits: 3
- ME 413 - Turbomachinery Credits: 3
- ME 414 - Air Pollution Control Credits: 3
- ME 416 - Renewable Energy Systems Credits: 3
- ME 417 - Computer-Aided Engineering Credits: 3
- ME 418 - Design of Thermal Systems Credits: 3
- ME 431 - Aerodynamics Credits: 3
- ME 437 - Gas Dynamics I Credits: 3
- ME 439 - HVAC System Design Credits: 3
- ME 440 - Numerical Methods for Engineering Design Credits: 3
- ME 441 - Robotic Systems Credits: 3
- ME 442 - Applications of Computational Fluid Dynamics Credits: 3
- ME 446 - Engineering Mechanics in Biomedical Applications Credits: 3
- ME 448 - Mechanical Behavior of Biomaterials Credits: 3
- ME 461 - 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 - Topics (COM) Credits: 1-5
- ME 494 - Internship (COM) Credits: 1-3
- ME 497 - Cooperative Education (COM) Credits: 1-3
- ME 498 - Research (COM) Credits: 1-3
- NE 435 - Introduction to Nuclear Engineering Credits: 3
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3

Supporting Coursework

- EE 300 - Basic Electrical Engineering I Credits: 2
- EE 300L - Basic Electrical Engineering I Lab Credits: 1
- EE 302 - Basic Electrical Engineering II Credits: 2
- EE 302L - Basic Electrical Engineering II Lab Credits: 1
- 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 [HSDC] Credits: 1
- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4

- MATH 225 - Calculus III (COM) [SGR #5, HSDC] Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3 or MATH 471 - Numerical Analysis I (COM) Credits: 3
- PHYS 209 - Fundamentals of Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 209L - Fundamentals of Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- 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	57 Credit Hours
Supporting Coursework	40 Credit Hours
Electives**	0 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

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.

Accreditation

The Mechanical Engineering (B.S.) program at SDSU is accredited by the Engineering Accreditation Commission of ABET.

Certification and Licensure

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/>.

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.

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 207, 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.

Requirements for Mechanical Engineering Major - Aerospace Engineering Specialization: 130 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] 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, HSDC] Credits: 4
- Goal #6 Natural Sciences: CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3, CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1, PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3, and PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- ME 121 - Production and Fabrication Processes Credits: 1
- ME 121L - Production and Fabrication Processes Lab Credits: 1
- ME 212 - Mechanical Engineering Design Technologies Credits: 2
- ME 230 - Engineering Design Methods Credits: 3
- ME 241 - Engineering Materials Credits: 3
- ME 301 - Engineering Ethics and Economics Credits: 1
- 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 - Measurements and Materials Characterization Lab Credits: 1
- ME 377 - Thermodynamics and Fluid Mechanics Lab Credits: 1
- ME 413 - Turbomachinery Credits: 3
- ME 415 - Heat Transfer Credits: 3
- ME 421 - Design of Machine Elements Credits: 3
- ME 431 - Aerodynamics Credits: 3
- ME 451 - Automatic Controls Credits: 3
- ME 452 - Mechatronics and Vibrations Lab Credits: 1
- ME 478 - Mechanical Systems Design I Credits: 3
- ME 479 - Mechanical Systems Design II (COM) Credits: 3

Select from the following

Select nine credits from the following. Credits: 9

- ABE 350 - Hydraulic Systems Credits: 2
- ABE 350L - Hydraulic and Pneumatic Systems Lab Credits: 1
- ME 341 - Metallurgy Credits: 3
- ME 417 - Computer-Aided Engineering Credits: 3
- ME 433 - Non-Destructive Testing and Evaluation Credits: 3
- ME 437 - Gas Dynamics I Credits: 3
- ME 441 - Robotic Systems Credits: 3
- ME 442 - Applications of Computational Fluid Dynamics Credits: 3

Supporting Coursework

- EE 300 - Basic Electrical Engineering I Credits: 2
- EE 300L - Basic Electrical Engineering I Lab Credits: 1
- EE 302 - Basic Electrical Engineering II Credits: 2
- EE 302L - Basic Electrical Engineering II Lab Credits: 1
- 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 [HSDC] Credits: 1
- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4

- MATH 225 - Calculus III (COM) [SGR #5, HSDC] Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- MATH 331 - Advanced Engineering Mathematics (COM) Credits: 3 or MATH 471 - Numerical Analysis I (COM) Credits: 3
- PHYS 209 - Fundamentals of Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 209L - Fundamentals of Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- 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

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

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

Medical Laboratory Science is the health care discipline that is trained in medical diagnostic testing to help clinicians diagnose diseases. The Medical Laboratory Science (MLS) program prepares its graduates for employment in hospital, medical laboratories, reference or research laboratories. Medical Laboratory Scientists perform a variety of testing on patient samples that includes blood, various body fluids, cells, and tissues. 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 labs 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. Medical Laboratory Science provides excellent opportunities for those interested in a dynamic and exciting career as a medical detective that plays a key role in helping to diagnose a patient's disease. The laboratory testing performed makes up 70-80% of a patient's medical history. According to data from the Bureau of Labor Statistics (BLS), employment of medical laboratory scientists is expected to grow 7% between now and 2031.

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 and Licensure

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 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 face-to-face 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.

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, CHEM 106L, CHEM 108, CHEM 108L, BIOL 221, BIOL 221L, BIOL 325, BIOL 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 incurred 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.

Progression

- To progress in the MLS program a student cannot have more than 5 credits of "D" in MLS prefix courses.
- MLS students with 5 credits of "D" can continue in the MLS program but if a student receives 6 or more credits of "D", the student would not be able to progress on to the next semester and would be removed from the program. The student would then have to follow the academic appeals if he/she would like to be readmitted to the program
- If a student receives an "F" in an MLS prefix course, the student would not be able to progress on to the next semester and would be removed from the program. The student would then have to follow the academic appeals if he/she would like to be readmitted to the program.
- The Pre-Clinical Assessment is a capstone activity that each student must take for completion of the MLS2 fall semester and progression into the MLS2 Clinical experience; it is administered during the fall semester of the MLS2 year. The assessment is administered at an alternate time for the Upward Mobility program and the Accelerated MLS program as determined by the MLS faculty and Program Director. The assessment is intended to determine competency in the general and professional student learning outcomes that are pertinent through the clinical experience (see Essential Functions and Curriculum Outcomes in the Student Handbook). The student will also be

required to take a clinical post-test followed by a final comprehensive exit exam in the summer of the MLS2 year to complete the clinical experience.

Requirements for Medical Laboratory Science Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences: CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3, CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4, and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- MLS 201 - Understanding Medical Laboratory Science Credits: 2
- MLS 301 - Hematology I Credits: 3
- MLS 301L - Hematology I Lab Credits: 1
- MLS 310 - Laboratory Operations Credits: 2
- MLS 311 - Clinical Chemistry I 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 401L - Hematology II and Hemostasis Lab Credits: 1
- MLS 403 - Diagnostic Immunology Credits: 3
- MLS 411 - Clinical Chemistry II Credits: 4
- MLS 411L - Clinical Chemistry II Lab Credits: 1
- MLS 412 - Laboratory Safety and Phlebotomy Credits: 3
- MLS 412L - Laboratory Safety and Phlebotomy 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 - Leadership and Education in the Medical Laboratory Credits: 3
- MLS 471 - Advanced Medical Diagnostics Credits: 2
- MLS 471L - Advanced Medical Diagnostics Lab Credits: 2
- MLS 472 - Advanced Clinical Experience I Credits: 5
- 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 - Medical Laboratory Capstone Credits: 1-3 (3 credits required)
- MLS 489 - Phlebotomy Clinical Experience Credits: 1-3 (1 credit required)
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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	79 Credit Hours
Electives**	8 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education

coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

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

Medical Laboratory Science is the health care discipline that is trained in medical diagnostic testing to help clinicians diagnose diseases. The Medical Laboratory Science (MLS) accelerated program prepares its graduates for employment in hospital, medical laboratories reference or research laboratories. Medical Laboratory Scientists perform a variety of testing on patient samples that includes blood, various body fluids, cells, and tissues. 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 12-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. Medical Laboratory Science provides excellent opportunities for those interested in a dynamic and exciting career as a medical detective that plays a key role in helping to diagnose a patient's disease. The laboratory testing performed makes up 70-80% of a patient's medical history. According to data from the Bureau of Labor Statistics (BLS), employment of medical laboratory scientists is expected to grow 5% between now and 2033.

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 and Licensure

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 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.

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 November 15th in the fall semester and February 15th in the spring semester.
- 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, CHEM 106L, CHEM 108, and CHEM 108L or equivalent
- Grade of "C" or "70%" minimum in all prerequisite courses.
- Completion of a minimum of 90 credits of coursework.
- 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 incurred 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.

Progression

- To progress in the MLS program a student cannot have more than 5 credits of "D" in MLS prefix courses.
- MLS students with 5 credits of "D" can continue in the MLS program but if a student receives 6 or more credits of "D", the student would not be able to progress on to the next semester and would be removed from the program. The student would then have to follow the academic appeals if he/she would like to be readmitted to the program
- If a student receives an "F" in an MLS prefix course, the student would not be able to progress on to the next semester and would be removed from the program. The student would then have to follow the academic appeals if he/she would like to be readmitted to the program.
- The Pre-Clinical Assessment is a capstone activity that each student must take for completion of the MLS2 fall semester and progression into the MLS2 Clinical experience; it is administered during the fall semester of the MLS2 year. The assessment is administered at an alternate time for the Upward Mobility program and the Accelerated MLS program as determined by the MLS faculty and Program Director. The assessment is intended to determine competency in the general and professional student learning outcomes that are pertinent through the clinical experience (see Essential Functions and Curriculum Outcomes in the Student Handbook). The student will also be required to take a clinical post-test followed by a final comprehensive exit exam in the summer of the MLS2 year to complete the clinical experience.

Requirements for Medical Laboratory Science Major - Accelerated Program: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences: CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3, CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4, and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3 and MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
or MICR 233 - Introductory Microbiology Credits: 3
and MICR 233L - Introductory Microbiology Lab Credits: 1
- MLS 420 - Fundamentals of the Medical Laboratory Credits: 2
- MLS 421 - Foundations of Medical Chemistry Credits: 4
- MLS 422 - Foundations of Hematology Credits: 3
- MLS 423 - Foundations of Urine & Body Fluid Analysis Credits: 2
- MLS 424 - Foundations of Medical Immunology Credits: 2
- MLS 425 - Foundations of Immunohematology Credits: 2
- MLS 426 - Foundations of Medical Laboratory Microbiology Credits: 3
- MLS 427 - Medical Chemistry Theory and Practice Credits: 4
- MLS 428 - Hematology and Hemostasis Theory and Practice Credits: 5
- MLS 429 - Immunohematology Theory and Practice Credits: 3
- MLS 430 - Medical Laboratory Microbiology Theory and Practice Credits: 4
- MLS 432 - Foundations of Molecular Methods Credits: 1
- MLS 461 - Leadership and Education in the Medical Laboratory Credits: 3
- MLS 465 - Introductory Medical Laboratory Practice Intensive Credits: 1
- MLS 476 - Clinical Practicum I Credits: 4
- MLS 477 - Clinical Practicum II Credits: 4
- MLS 478 - Clinical Practicum III Credits: 3
- MLS 479 - Clinical Practicum IV Credits: 3
- MLS 483 - Medical Laboratory Capstone Credits: 1-3 (1 credit required)
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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	69 Credit Hours
Electives**	18 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

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 (MLT) to complete a bachelor's degree in medical laboratory sciences within their own clinical employment setting, utilizing a variety of online instructional approaches.

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 and Licensure

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 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 or place of employment.

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 online 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:

- Completion of an associate degree and certification as a CLT/MLT or equivalent.
- Grade of "C" or "70%" minimum in all prerequisite courses required for the MLS major.
- 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
- 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.

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.

Progression

- To progress in the MLS program a student cannot have more than 5 credits of "D" in MLS prefix courses.
- MLS students with 5 credits of "D" can continue in the MLS program but if a student receives 6 or more credits of "D", the student would not be able to progress on to the next semester and would be removed from the program. The student would then have to follow the academic appeals if he/she would like to be readmitted to the program
- If a student receives an "F" in an MLS prefix course, the student would not be able to progress on to the next semester and would be removed from the program. The student would then have to follow the academic appeals if he/she would like to be readmitted to the program.
- The Pre-Clinical Assessment is a capstone activity that each student must take for completion of the MLS2 fall semester and progression into the MLS2 Clinical experience; it is administered during the fall semester of the MLS2 year. The assessment is administered at an alternate time for the Upward Mobility program and the Accelerated MLS program as determined by the MLS faculty and Program Director. The assessment is intended to determine competency in the general and professional student learning outcomes that are pertinent through the clinical experience (see Essential Functions and

Curriculum Outcomes in the Student Handbook). The student will also be required to take a clinical post-test followed by a final comprehensive exit exam in the summer of the MLS2 year to complete the clinical experience.

Requirements for Medical Laboratory Science Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences: CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3**, CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1**, CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4**, and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1**

Major Requirements

- BIOL 221 - Human Anatomy (COM) Credits: 3 **
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1 **
- BIOL 325 - Physiology (COM) Credits: 3 **
- BIOL 325L - Physiology Lab (COM) Credits: 1 **
- MLS 301 - Hematology I Credits: 3 **
- MLS 301L - Hematology I Lab Credits: 1 **
- MLS 311 - Clinical Chemistry I Credits: 3 **
- MLS 312 - MLT to MLS Transitional Experience Credits: 4
- MLS 341 - Diagnostic Microbiology I Credits: 3
- MLS 341L - Diagnostic Microbiology I Lab Credits: 2 **
- MLS 403 - Diagnostic Immunology Credits: 3
- MLS 405 - Advanced Clinical Chemistry Credits: 3
- MLS 406 - Hemostasis and Advanced Hematology Credits: 3
- MLS 412 - Laboratory Safety and Phlebotomy Credits: 3 **
- MLS 412L - Laboratory Safety and Phlebotomy 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 - Leadership and Education in the Medical Laboratory 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 - Medical Laboratory Capstone Credits: 1-3 (3 credits required)
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Transfer of 20-46 Credit Satisfying Requirements Above

- MLS 368 - Medical Laboratory Science Transfer Credit Credits: 20-46
**Courses that may be met in this way include:
 - 19 credits for the following laboratory and junior level SDSU MLS courses prior to beginning the online MLS baccalaureate program: MLS 301-301L, MLS 311, MLS 341L, MLS 412-412L, MLS 441L, MLS 431L, MLS 451L, MLS 471L.
 - 10 credits may be applied within the clinical practicum.
 - 17 credits may be transcripted for MLT courses within the curriculum that do not meet the equivalency transfer but are recognized as natural science equivalencies to meet CHEM 106-106L, CHEM 108-108L, BIOL 221-221L and BIOL 325-325L requirements.

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	78 Credit Hours
Electives**	9 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

Microbiology (B.S.)

Program Contact/Coordinator

Jeremy Chambers, 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.

Course Delivery Format

Program coursework is on campus, in classrooms and laboratories, as well as field-based settings. Limited coursework is available online.

Academic Requirements

A minimum GPA of 2.0 must be maintained in the major courses.

Requirements for Microbiology Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 115 - Precalculus (COM) [SGR #5, HSDC] Credits: 5 or higher SGR #5 MATH course Credits: 3-5
- Goal #6 Natural Sciences: BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement), BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 (Major Requirement), and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement)

Major Requirements

- BIOL 119 - First Year Seminar Credits: 2
- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 202 - Genetics and Molecular Biology Credits: 3
- BIOL 202L - Genetics and Molecular Biology Lab Credits: 1
- BIOL 204 - Introduction to Cell Biology (COM) Credits: 3
- BIOL 204L - Introduction to Cell Biology Lab (COM) Credits: 1
- BIOL 290 - Seminar (COM) Credits: 1
or MICR 290 - Seminar (COM) Credits: 1
- BIOL 383 - Bioethics (COM) Credits: 4
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1

- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods - Biochemistry Credits: 1
- MICR 233 - Introductory Microbiology Credits: 3
- MICR 233L - Introductory Microbiology Lab Credits: 1
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MICR 439 - Medical and Veterinary Immunology Credits: 3
- MICR 448 - Molecular and Microbial Genetics Credits: 4
- PHYS Electives Credits: 4
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Applied and Environmental Microbiology

Select at least two courses from the following. Credits: 6-8

- BIOL 235 - Introduction to Biotechnology (COM) [SGR #6, HSDC] Credits: 2
- BIOL 235L - Introduction to Biotechnology Lab (COM) [SGR #6, HSDC] Credits: 1
- MICR 310 - Environmental Microbiology Credits: 3
- MICR 310L - Environmental Microbiology Lab Credits: 1
- MICR 311 - Food Microbiology Credits: 2
- MICR 311L - Food Microbiology Lab Credits: 2
- MICR 421 - Soil Microbiology Credits: 2
- MICR 421L - Soil Microbiology Lab Credits: 1
- MICR 450 - Applied Microbiology and Biotechnology Credits: 3

Infectious Disease

Select at least two courses from the following. Credits: 6

- MICR 424 - Medical and Veterinary Virology Credits: 3
- MICR 433 - Medical Microbiology (COM) Credits: 3
- MICR 440L - Infectious Disease Lab Credits: 3

Select from the following

Credits: 3-4

- BIOL 235 - Introduction to Biotechnology (COM) [SGR #6, HSDC] Credits: 2
- BIOL 235L - Introduction to Biotechnology Lab (COM) [SGR #6, HSDC] Credits: 1
- MICR 310 - Environmental Microbiology Credits: 3
- MICR 310L - Environmental Microbiology Lab Credits: 1
- MICR 311 - Food Microbiology Credits: 2
- MICR 311L - Food Microbiology Lab Credits: 2
- MICR 421 - Soil Microbiology Credits: 2
- MICR 421L - Soil Microbiology Lab Credits: 1
- MICR 424 - Medical and Veterinary Virology Credits: 3
- MICR 433 - Medical Microbiology (COM) Credits: 3
- MICR 440L - Infectious Disease Lab Credits: 3
- MICR 450 - Applied Microbiology and Biotechnology Credits: 3
- MICR 494 - Internship (COM) Credits: 1-12 (3 credits required. Max of 3 credits allowed.)
or BIOL 494 - Internship (COM) Credits: 1-12 (3 credits required. Max of 3 credits allowed.)
- MICR 498 - Research (COM) Credits: 1-4 (3 credits required. Max of 3 credits allowed.)
or BIOL 498 - Research (COM) Credits: 1-12 (3 credits required. Max of 3 credits allowed.)

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*	24-26 Credit Hours
Major Requirements	80-83 Credit Hours
Electives**	11-16 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

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.

Accreditation

South Dakota State University's music program is accredited by the National Association of Schools of Music (good standing reaffirmed in 2011).

Course Delivery Format

The program offers coursework in classroom, studio, and performance settings. The program allows for internship experiences and independent studies.

Music Program Application Requirements

- 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.
- 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:
 - successfully complete a jury examination each semester.
 - apply for and be granted approval to advance to upper-level applied study (300-400 levels).
 - complete a minimum of 6 hours of upper level (300-400) applied study
- 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.
- Voice or instrumental proficiency is required of all keyboard majors.
- Ensemble Requirements:
 - 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.
 - Participation in small ensembles is strongly encouraged for all majors and minors.
- 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.
- Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her advisor.
- Recommendations for music entrepreneurship students wishing to enroll for the Internship experience must be issued by the program Coordinator.
- 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.

Requirements for Music Major - Music Entrepreneurship Specialization: 120 Credits

Bachelor of Arts

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: 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: 6+

- Modern Foreign Language Including the 202-Level Credits: 6+
- 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 and Social Sciences for additional information about Bachelor of Arts specifications.

Major Requirements

- MUS 110 - Music Theory I (COM) Credits: 3
- MUS 110L - Aural Skills I (COM) Credits: 1
- MUS 111 - Music Theory II (COM) Credits: 3
- MUS 111L - Aural Skills II (COM) Credits: 1
- MUS 119 - First Year Seminar Credits: 2
- MUS 130 - Music Literature and History I [SGR #4, HSDC] Credits: 2
- MUS 185 - Recital Attendance (COM) Credits: 0¹
- MUS 201 - History of Country Music [SGR #4, HSDC] Credits: 3
- MUS 203 - Blues, Jazz, and Rock [SGR #4, HSDC] Credits: 3
- MUS 210 - Music Theory III (COM) Credits: 3
- MUS 210L - Aural Skills III (COM) Credits: 1
- MUS 211 - Music Theory IV (COM) Credits: 3
- MUS 211L - Aural Skills IV (COM) Credits: 1
- MUS 304 - Introduction to the Music 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

- ADV 370 - Advertising Principles (COM) Credits: 3
- ENTR 236 - Fundamentals of Innovation and Creativity Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3
- MUS 306 - Copyright, Marketing and Music Publishing Credits: 3
- MUS 447 - Sound Design for the Performing Arts 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** 6+ Credit Hours

Major Requirements	72 Credit Hours
Electives***	18 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

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.

Accreditation

South Dakota State University's music program is accredited by the National Association of Schools of Music (good standing reaffirmed in 2011).

Course Delivery Format

The program offers coursework in classroom, studio, and performance settings. The program allows for internship experiences and independent studies.

Music Program Application Requirements

- 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.
- 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:
 - successfully complete a jury examination each semester.
 - apply for and be granted approval to advance to upper-level applied study (300-400 levels).
 - complete a minimum of 6 hours of upper level (300-400) applied study
- 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.
- Voice or instrumental proficiency is required of all keyboard majors.
- Ensemble Requirements:
 - 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.
 - Participation in small ensembles is strongly encouraged for all majors and minors.
- 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.
- Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her advisor.
- Recommendations for music entrepreneurship students wishing to enroll for the Internship experience must be issued by the program Coordinator.

- 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.

Requirements for Music Major - Music Studies Specialization: 120 Credits

Bachelor of Arts

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+
- One declared minor outside of the major discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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 and Social Sciences for additional information about Bachelor of Arts specifications.

Major Requirements

- MUS 110 - Music Theory I (COM) Credits: 3
- MUS 110L - Aural Skills I (COM) Credits: 1
- MUS 111 - Music Theory II (COM) Credits: 3
- MUS 111L - Aural Skills II (COM) Credits: 1
- MUS 119 - First Year Seminar Credits: 2
- MUS 130 - Music Literature and History I [SGR #4, HSDC] Credits: 2
- MUS 131 - Music Literature and History II [SGR #4, HSDC] Credits: 3
- MUS 185 - Recital Attendance (COM) Credits: 0¹
- MUS 210 - Music Theory III (COM) Credits: 3
- MUS 210L - Aural Skills III (COM) Credits: 1
- MUS 211 - Music Theory IV (COM) Credits: 3
- MUS 211L - Aural Skills IV (COM) Credits: 1
- MUS 270 - Pedagogy I Credits: 1-2
- MUS 313 - Form and Analysis (COM) Credits: 3
- MUS 360 - 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: 0² (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** 6+ Credit Hours

Major Requirements 52 Credit Hours

Electives*** 38 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

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.

Accreditation

South Dakota State University's music program is accredited by the National Association of Schools of Music (good standing reaffirmed in 2011).

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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.

Music Program Application Requirements

- 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.
- 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:
 - successfully complete a jury examination each semester.
 - apply for and be granted approval to advance to upper-level applied study (300-400 levels).
 - complete a minimum of 6 hours of upper level (300-400) applied study
- 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.
- Voice or instrumental proficiency is required of all keyboard majors.
- Ensemble Requirements:
 - 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.
 - Participation in small ensembles is strongly encouraged for all majors and minors.
- 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.

- Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her advisor.
- Recommendations for music entrepreneurship students wishing to enroll for the Internship experience must be issued by the program Coordinator.
- Majors and minors must enroll for Recital Attendance (MUS 185) each semester they are enrolled for applied music lessons.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- A grade of "C" or better is required in academic major coursework (classes with MUEN, MUS, or MUAP prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Requirements for Music Education Major: 126 Major

Bachelor of Music Education

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3 (Teacher Education Requirement) and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: MUS 131 - Music Literature and History II [SGR #4, HSDC] Credits: 3 (Major Requirement) 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

- Upper division coursework Credits: 33

See the College of Arts, Humanities and Social Sciences for additional information about Bachelor of Music Education specifications.

Major Requirements

- MUS 119 - First Year Seminar 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: 3
- MUS 110L - Aural Skills I (COM) Credits: 1
- MUS 111 - Music Theory II (COM) Credits: 3
- MUS 111L - Aural Skills II (COM) Credits: 1
- MUS 210 - Music Theory III (COM) Credits: 3
- MUS 210L - Aural Skills III (COM) Credits: 1
- MUS 211 - Music Theory IV (COM) Credits: 3
- MUS 211L - Aural Skills IV (COM) Credits: 1

Music Literature and History

- MUS 130 - Music Literature and History I [SGR #4, HSDC] Credits: 2
- MUS 131 - Music Literature and History II [SGR #4, HSDC] Credits: 3
- 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 (2 credits required)
- MUS 355 - Computer Based Technology and Learning for Music Educators Credits: 2
- MUS 360 - Conducting (COM) Credits: 2
- MUS 361 - Music Education II: Conducting Credits: 2
- MUS 362 - Music Education III: Methods and Materials Credits: 2
- MUS 365 - Music Education IV: Supervision and Administration of School Music 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

Teacher Education Requirements

The Education curriculum below is unique to Music Education. Please contact the School of Education, Counseling and Human Development for information about other education programs.

*Complete MUS 351 - Elementary School Music Methods (COM) Credits: 2-3 (2 credits required) as co-requisite to EDFN 352 - Teaching and Learning II.

**Complete MUS 360 - Conducting (COM) Credits: 2 as a co-requisite to EDFN 453 - Teaching and Learning III.

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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

- SPED 100 - Introduction to Persons with Exceptionalities (COM) Credits: 3

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 - Conducting (COM) Credits: 2
- MUS 361 - Music Education II: Conducting Credits: 2
- MUS 362 - Music Education III: Methods and Materials Credits: 2
- MUS 365 - Music Education IV: Supervision and Administration of School Music 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*	24 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	0 Credit Hours
Major Requirements	102 Credit Hours
Electives***	0 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Natural Resource Law Enforcement (B.S.)

Program Coordinator/Contact

Riley Moundsdon, Instructor
Department of Natural Resource Management
Edgar S. McFadden Biostress Laboratory, Room 255A
605-688-5602

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.

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3 (Supporting Coursework) or SOC 150 - Social Problems (COM) [SGR #3, HSDC] Credits: 3 or SOC 240 - The Sociology of

Rural America (COM) [SGR #3, HSDC] Credits: 3 (Supporting Coursework) and SGR #3 Electives Credits: 3

- Goal #4 Arts and Humanities: SGR #4 Elective Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences: BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3, BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3, and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits: 2 and BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1 or BOT 405 - Grasses and Grasslike Plants Credits: 1 and BOT 405L - Grasses and Grasslike Plants Lab Credits: 2 or BOT 415 - Aquatic Plants Credits: 1 and BOT 415L - Aquatic Plants Lab Credits: 2 or BOT/RANG 419 - Plant Ecology (COM) Credits: 2 and BOT/RANG 419L - Plant Ecology Lab (COM) Credits: 1 or PS 255 - Woody Plants Credits: 3 and PS 255L - Woody Plants Lab Credits: 1
- 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 - Natural Resource Statistics Credits: 2 and NRM 282L - Natural Resource Statistics Lab Credits: 1 or STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3
- NRM 300 - Laws and Policies in Natural Resource Management Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3
- NRM 475 - Natural Resource Law Enforcement Investigations and Report Writing Credits: 2
- NRM 475L - Natural Resource Law Enforcement Investigations and Report Writing Lab Credits: 1
- NRM 476 - Law Enforcement Techniques for Natural Resource Officers Credits: 3
- RANG 374 - Habitat Conservation and Management Credits: 3
- RANG 374L - Habitat Conservation and Management Lab Credits: 1
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- WL 355 - Mammalogy (COM) Credits: 3
- WL 355L - Mammalogy Lab (COM) Credits: 1
- WL 363 - Ornithology (COM) Credits: 3
- WL 363L - Ornithology Lab (COM) Credits: 1
- WL 367 - Ichthyology Credits: 2
- WL 367L - Ichthyology Lab Credits: 1
- WL 411 - Principles of Wildlife Management Credits: 2
- WL 411L - Principles of Wildlife Management Lab Credits: 1
- WL 412 - Principles of Fisheries Management Credits: 2
- WL 412L - Principles of Fisheries Management Lab Credits: 1
- WL 420 - Wildlife Law Enforcement Credits: 3
- WL 430 - Human Dimensions in Natural Resource Management Credits: 3

Supporting Coursework

- CJUS 201 - Introduction to Criminal Justice (COM) [SGR #3, HSDC] Credits: 3
- 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 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3 or SOC 150 - Social Problems (COM) [SGR #3, HSDC] Credits: 3 or SOC 240 - The Sociology of Rural America (COM) [SGR #3, HSDC] Credits: 3
- SOC 351 - Criminology (COM) Credits: 3

Select one of the following options

Select one of the emphasis areas. Credits 9

Natural Resource Science Emphasis

Select 9 credits from the following:

- BIOL 373 - Evolution (COM) Credits: 3
- EES 430 - Biological Invasions Credits: 3
- NRM 350 - Conservation and Management of Endangered and Nongame Wildlife Credits: 3
- NRM 410 - Conservation Biology (COM) Credits: 3
- NRM 450 - Freshwater Monitoring and Assessment Credits: 2
- NRM 450L - Freshwater Monitoring and Assessment Lab Credits: 1
- NRM 464 - Ecosystem Ecology Credits: 3
- NRM 466 - Environmental Toxicology and Contaminants (COM) Credits: 3
- NRM 482 - Natural Resource Management Biometry Credits: 2
- NRM 482L - Natural Resource Management Biometry Lab Credits: 1
- RANG 421 - Grassland Fire Ecology Credits: 3
- WL 415 - Upland Game Ecology and Management Credits: 2
- WL 415L - Upland Game Ecology and Management Lab Credits: 1
- WL 417 - Large Mammal Ecology and Management Credits: 2
- WL 417L - Large Mammal Ecology and Management Lab Credits: 1
- WL 419 - Waterfowl Ecology and Management Credits: 2
- WL 419L - Waterfowl Ecology and Management Lab Credits: 1
- WL 427 - Limnology and Stream Ecology Credits: 2
- WL 427L - Limnology and Stream Ecology Lab Credits: 1
- WL 431 - Advanced Fisheries Management Credits: 2
- WL 431L - Advanced Fisheries Management Lab Credits: 1

Regulation, Law and Policy Emphasis

Select 9 credits from the following:

- AGE 352 - Agricultural Law Credits: 3
- CJUS 203 - Policing in a Free Society (COM) Credits: 3
- POLS 210 - State and Local Government (COM) [SGR #3, HSDC] [CIV] Credits: 3
- POLS 225 - Introduction to Moot Court Credits: 3
- POLS 337 - Constitutional Law: Government Powers Credits: 3
- PUBR 243 - Public Relations Principles (COM) Credits: 3
- SOC 350 - Race and Ethnic Relations (COM) Credits: 3
- SOC 354 - Victimology (COM) Credits: 3
- SOC 455 - Juvenile Delinquency (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*	29 Credit Hours
Major Requirements	53 Credit Hours
Supporting Coursework	36 Credit Hours
Electives**	2 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Nursing (B.S.N.)

Program Coordinator/Contact

Standard Option, Brookings
Laura Jacobs, Advising Coordinator
SDSU Wagner Hall 335E
Brookings, SD 57007
605-688-4106

Standard Option, Rapid City
Gale Folsland, Professional Academic Advisor
SDSU Rapid City Campus (BHSU - RC), Room 114H
4300 Cheyenne Blvd
Box Elder, SD 57719
605-718-4369 or 605-394-2880 (Messages)

Standard Option, Sioux Falls
Ali Christopherson, Professional Academic Advisor/Coordinator
SDSU Sioux Falls Campus (STC)
2300 N. Career Avenue
Sioux Falls, SD 57107
605-367-5636

Online Option
Abby Exner, Professional Academic Advisor
SDSU Wagner Hall 335
Brookings, SD 57007
320-241-5301

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.

Accreditation

The baccalaureate degree program in nursing, master's degree program in nursing, Doctor of Nursing Practice program and postgraduate advanced practice registered nurse certificate program at South Dakota State University are accredited by the Commission on Collegiate Nursing Education.

South Dakota State University College of Nursing Healthcare Simulation Center has full accreditation by the Society for Simulation in Healthcare in teaching/education. This status will be granted from Oct. 25, 2022, through Dec. 31, 2027.

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.

Program Delivery Options

Two types of undergraduate curricula lead to the Bachelor of Science with a major in nursing: one for standard, online, and accelerated option students and one for RNs who are academically prepared at the associate degree who are seeking a bachelor's degree.

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 20 months on the Sioux Falls campus. Information about the Accelerated, Online, and RN to B.S.N. programs is available in the subsequent sections.

The Online B.S.N. option is available only to students located in South Dakota. Theory courses are completed online (blend of synchronous and asynchronous methods). Students will complete some clinical on campus at one of our SDSU College of Nursing sites in Brookings, Sioux Falls, or Rapid City and a blend of traditional and precepted clinical experiences primarily in their home communities (contingent on available partnerships).

Standard B.S.N. Program Admission Admissions Application Dates

Refer to the SDSU College of Nursing website for admission application deadlines.

Early Assurance Program

Our College of Nursing Early Assurance Program allows high school senior students to apply for early assurance admission in the B.S.N. program directly from high school. Students complete three semesters of pre-nursing coursework, while maintaining eligibility requirements and then move seamlessly into the B.S.N. program and earn a degree five semesters later.

Qualifications for the Early Assurance Program

To be considered for the Early Assurance Program, applicants must:

- be admitted as a first-time freshman nursing major at SDSU,
- have a minimum 27 composite score on the ACT (SAT equivalent 1280) and
- submit the College of Nursing Early Assurance Program Application.

Requirements to Maintain Eligibility in the Early Assurance Program

Early Assurance students are conditionally admitted to the professional program. Students must meet and maintain the following requirements for all pre-nursing semesters:

- be enrolled as a full-time student each semester prior to beginning the B.S.N. program,
- participate in the Van D. and Barbara B. Fishback Honors College and meet the Honors College progression standards,
- a grade of "C" or higher in all completed pre-nursing courses (on first attempt) required for graduation (no D, F, or withdrawal grades). Failure in any pre-nursing courses will disqualify the student from participation in the Early Assurance Program,
- complete the Early Assurance Program Verification form while completing your final nursing prerequisite courses.

Guaranteed Admission Program

Students in the Applied Health Sciences degree at Black Hills State University (Rapid City) are guaranteed admission to SDSU's Rapid City Standard B.S.N. program as long as they meet the following requirements:

- be enrolled as an applied health science student at Black Hills State University,
- overall GPA of 2.700,
- a grade of "C" or higher in all completed courses required for graduation,
- all other admission requirements to SDSU and the B.S.N. program,
- complete the Guaranteed Admission Program Verification form the semester prior to beginning the B.S.N. program.

Competitive Admission Requirements

To be considered for competitive admission to the Standard Option, students must have:

- a cumulative GPA of 2.700
- 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) #3 Social Sciences (must meet the Civics requirement)
 - 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 and CHEM 106L or CHEM 108 and CHEM 108L or CHEM 112 and CHEM 112L or CHEM 114 and CHEM 114L
 - NUTR 315
 - MICR 231 and MICR 231L
 - PSYC 101
 - SOC 100, SOC 150, SOC 240, or ANTH 210
 - BIOL 221 and BIOL 221L
 - BIOL 325 and BIOL 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.

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 Student Handbook. This includes but is not limited to health requirements, immunizations, background checks, and drug screens.

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. 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.

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: SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3 or SOC 150 - Social Problems (COM) [SGR #3, HSDC] Credits: 3 or SOC 240 - The Sociology of Rural America (COM) [SGR #3, HSDC] Credits: 3 or ANTH 210 - Cultural Anthropology (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences:
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC]

Credits: 4 and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1
 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
 or CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3 and CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
 • MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3 and MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1

Pre-Nursing Requirements

- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- NURS 119 - First Year Seminar (COM) Credits: 2
- NUTR 315 - Human Nutrition (COM) Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3

Major Requirements

- NURS 225 - Clinical Application I Credits: 3
- NURS 228 - Assessment of Individuals and Populations Across the Lifespan Credits: 4
- NURS 246 - Professional and Population Health Nursing I Credits: 2
- NURS 323 - Introduction to Pathophysiology Credits: 3
- NURS 338 - Client Centered Care I Credits: 4
- NURS 346 - Professional and Population Health Nursing II Credits: 2
- NURS 348 - Client Centered Care II Credits: 4
- NURS 351 - Pharmacology for Nursing Practice Credits: 2
- NURS 353 - Clinical Judgment I Credits: 2
- NURS 365 - Clinical Application II Credits: 3
- NURS 361 - Research, Quality, and Safety in Nursing Credits: 3
- NURS 373 - Clinical Judgment II Credits: 2
- NURS 375 - Clinical Application III Credits: 4
- NURS 425 - Clinical Application IV Credits: 4
- NURS 446 - Professional and Population Health Nursing III Credits: 2
- NURS 448 - Client Centered Care III Credits: 4
- NURS 451 - Pharmacology for Nursing Practice II Credits: 1
- NURS 453 - Clinical Judgment III Credits: 2
- NURS 473 - Clinical Judgment IV Credits: 2
- NURS 482 - Transition to Professional Nursing 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*	32-33 Credit Hours
Pre-Nursing Requirements	19 Credit Hours
Major Requirements	60 Credit Hours
Electives**	8-9 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

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

Program Coordinator/Contact

Accelerated Option, Sioux Falls
 Ali Christopherson, Professional Academic Advisor/Coordinator
 SDSU Sioux Falls Campus (STC)
 2300 N. Career Avenue
 Sioux Falls, SD 57107
 605-367-5636

Rapid City Accelerated
 Gale Folsland, Professional Academic Advisor
 SDSU Rapid City Campus (BHSU - RC), Room 114H
 4300 Cheyenne Blvd
 Box Elder, SD 57719
 605-718-4369 or 605-394-2880 (Messages)

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.

Accreditation

The baccalaureate degree program in nursing, master's degree program in nursing, Doctor of Nursing Practice program and postgraduate advanced practice registered nurse certificate program at South Dakota State University are accredited by the Commission on Collegiate Nursing Education.

South Dakota State University College of Nursing Healthcare Simulation Center has full accreditation by the Society for Simulation in Healthcare in teaching/education. This status will be granted from Oct. 25, 2022, through Dec. 31, 2027.

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.

Program Delivery Options

The Accelerated 12-month Option begins once a year at the SDSU Sioux Falls campus (August) and the SDSU Rapid City campus (January). Students take coursework and participate in lecture, on-campus labs, and clinical rotations in Sioux Falls or Rapid City respectively and in surrounding communities.

Admission

Admission Application Deadline Dates

Refer to the SDSU College of Nursing website for admission application deadlines.

Admission Requirements

To be considered for admission to the Accelerated Option, students must have:

- a cumulative GPA of 2.700 or higher.
- a grade of "C" or higher in all completed courses required for graduation.
- completion of all prerequisite coursework, SGRs, and elective courses, as needed, to equal 120 credits upon completion of the program. Students may apply while prerequisite coursework is in progress as long as courses are completed before starting semester 1 of the nursing program if selected for admission.

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.

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 Student Handbook. This includes but is not limited to health requirements, immunizations, background checks, and drug screens.

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. 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.

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: SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3 or SOC 150 - Social Problems (COM) [SGR #3, HSDC] Credits: 3 or SOC 240 - The Sociology of Rural America (COM) [SGR #3, HSDC] Credits: 3 or ANTH 210 - Cultural Anthropology (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences:
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4 and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3 and CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
 - MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3 and MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1

Pre-Nursing Requirements

- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- NURS 119 - First Year Seminar (COM) Credits: 2
- NUTR 315 - Human Nutrition (COM) Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3

Major Requirements

- NURS 225 - Clinical Application I Credits: 3
- NURS 228 - Assessment of Individuals and Populations Across the Lifespan Credits: 4
- NURS 246 - Professional and Population Health Nursing I Credits: 2
- NURS 323 - Introduction to Pathophysiology Credits: 3
- NURS 338 - Client Centered Care I Credits: 4
- NURS 346 - Professional and Population Health Nursing II Credits: 2
- NURS 348 - Client Centered Care II Credits: 4
- NURS 351 - Pharmacology for Nursing Practice Credits: 2
- NURS 353 - Clinical Judgment I Credits: 2
- NURS 365 - Clinical Application II Credits: 3
- NURS 361 - Research, Quality, and Safety in Nursing Credits: 3
- NURS 373 - Clinical Judgment II Credits: 2
- NURS 375 - Clinical Application III Credits: 4
- NURS 425 - Clinical Application IV Credits: 4
- NURS 446 - Professional and Population Health Nursing III Credits: 2
- NURS 448 - Client Centered Care III Credits: 4
- NURS 451 - Pharmacology for Nursing Practice II Credits: 1
- NURS 453 - Clinical Judgment III Credits: 2
- NURS 473 - Clinical Judgment IV Credits: 2
- NURS 482 - Transition to Professional Nursing 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*	32-33 Credit Hours
Pre-Nursing Requirements	19 Credit Hours
Major Requirements	60 Credit Hours
Electives**	8-9 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

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

Program Coordinator/Contact

RN to B.S.N. Option
Abby Exner, Professional Academic Advisor
SDSU Wagner Hall 335E
Brookings, SD 57007
605-688-6470

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.

Accreditation

The baccalaureate degree program in nursing, master's degree program in nursing, Doctor of Nursing Practice program and postgraduate advanced practice registered nurse certificate program at South Dakota State University are accredited by the Commission on Collegiate Nursing Education.

South Dakota State University College of Nursing Healthcare Simulation Center has full accreditation by the Society for Simulation in Healthcare in teaching/education. This status will be granted from Oct. 25, 2022, through Dec. 31, 2027.

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.

Program Delivery Options

The RN to B.S.N. option is designed as a baccalaureate degree completion for registered nurses who completed an associate degree nursing program. Curriculum includes online 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

- Meet SDSU GPA transfer requirements
- "C" grades in all coursework applied to baccalaureate requirements
- Unencumbered registered nursing license in state of practice

Conditional admission may be granted to approved students currently enrolled in an associate degree program.

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. 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.

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 Student Handbook. This includes but is not limited to health requirements, immunizations, background checks, and drug screens.

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: SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3, SOC 150 - Social Problems (COM) [SGR #3, HSDC] Credits: 3 or SOC 240 - The Sociology of Rural America (COM) [SGR #3, HSDC] Credits: 3 or ANTH 210 - Cultural Anthropology (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6

- Goal #5 Mathematics: SGR #5 Elective Credits: 3
- Goal #6 Natural Sciences:
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1
 - or CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4 and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1
 - or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
 - or CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3 and CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
 - MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3 and MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1

College of Nursing Requirements

- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3

Major Requirements

- NURS 300 - Transition to BSN Credits: 3
- NURS 301 - Emerging Issues in Nursing Credits: 3
- NURS 452 - Introduction to Population Health Credits: 3
- NURS 455 - Quality Improvement and Safety Credits: 3
- NURS 462 - Application of Population Health Credits: 3
- NURS 463 - Systems-Based Practice in Healthcare Credits: 3
- NURS 465 - Evidence-Based Practice and Research Credits: 3
- NURS 466 - Healthcare Informatics and Technologies Credits: 3
- NURS 468 - Palliative Care Nursing Credits: 3
- NURS 469 - Nursing Leadership in Practice Credits: 3

Associate degree credits awarded by licensure for the following

Credits: 46

- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- NURS 119 - First Year Seminar (COM) Credits: 2
- NURS 228 - Assessment of Individuals and Populations Across the Lifespan Credits: 4
- NURS 338 - Client Centered Care I Credits: 4
- NURS 348 - Client Centered Care II Credits: 4
- NURS 351 - Pharmacology for Nursing Practice Credits: 2
- NURS 365 - Clinical Application II Credits: 3
- NURS 375 - Clinical Application III Credits: 4
- NURS 425 - Clinical Application IV Credits: 4
- NURS 448 - Client Centered Care III Credits: 4
- NURS 451 - Pharmacology for Nursing Practice II Credits: 1
- NURS 473 - Clinical Judgment IV Credits: 2
- NURS 482 - Transition to Professional Nursing Credits: 3
- NURS 495 - Practicum (COM) Credits: 1-6 (4 credits required)
- 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*	32-33 Credit Hours
College of Nursing Requirements	11 Credit Hours
Major Requirements	76 Credit Hours
Electives**	0-1 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education

coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

Nutrition and Dietetics (B.S.)

Program Coordinator/Contact

Chris Comstock, Lecturer
School of Health and Human Sciences
Wagner Hall 447, Box 2275A
605-688-6285

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 nutritionists (RDN) provide nutrition education and counseling and are pivotal in preventive health care and community nutrition programs. Additionally, an 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 <https://www.sdstate.edu/school-health-human-sciences/nutrition-dietetics-bs>. Program outcome data are available upon request from the program director.

Accreditation

The Didactic Program in Dietetics has been continuously approved/accredited since inception by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) (120 South Riverside Plaza, Suite 2190, Chicago, IL 60606-6995). ACEND is the accrediting agency for the Academy of Nutrition and Dietetics (<https://www.eatrightpro.org/acend>).

Certification and Licensure

To graduate from SDSU with a B.S. degree in Nutrition and Dietetics, students must have a "C" or better in all major coursework (courses with the NUTR prefix). To become an RDN, one must earn a minimum of a graduate degree from an accredited dietetics program, complete an accredited supervised practice experience (dietetic internship) and pass the Commission on Dietetic Registration's Examination for RDNs. 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.

Additional Program Requirements

Students must be current on immunizations and may need to complete a criminal background check for certain educational components of the program. Additional costs may be incurred for laboratory materials and student membership in the national organization of the Academy of Nutrition and Dietetics.

Academic Requirements

A minimum final grade of "C" is required in all NUTR prefix required courses in the major to graduate.

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, HSDC] Credits: 3 and ENGL 201 - Composition II (COM) [SGR #1, HSDC] Credits: 3
- Goal #2 Oral Communication: CMST 101 - Foundations of Communication (COM) [SGR #2, HSDC] Credits: 3
- Goal #3 Social Sciences: HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3

- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences: CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3, CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4, and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 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 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- CHRD 475 - Motivational Interviewing and Wellness Counseling Credits: 3 or HLTH 405 - Health Coaching Concepts and Skills Credits: 3
- HLTH 220 - Social Determinants of Health Credits: 3
- HLTH 475 - Principles of Community Health Education Credits: 3
- HLTH 479 - Health Promotion Programming and Evaluation Credits: 2
- HMG 251 - Foodservice Sanitation Credits: 1
- HMG 380 - Foodservice Operations and Purchasing Management Credits: 3
- HMG 381 - Quantity Food Production and Service Credits: 1
- HMG 381L - Quantity Food Production and Service Lab Credits: 3
- HSC 200 - Integrative Holistic Healthcare Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
- NURS 201 - Medical Terminology Credits: 1
- NURS 323 - Introduction to Pathophysiology Credits: 3
- NUTR 111 - Food, People and the Environment Credits: 3
- NUTR 141 - Foods Principles Credits: 3
- NUTR 141L - Foods Principles Lab Credits: 1
- NUTR 315 - Human Nutrition (COM) Credits: 3
- NUTR 322 - Nutrition Assessment Credits: 3
- NUTR 323 - Nutrition Across the Life Cycle Credits: 3
- NUTR 341 - Food Science for Nutrition and Dietetics Credits: 3
- NUTR 341L - Food Science for Nutrition and Dietetics Lab Credits: 1
- NUTR 422 - Advanced Human Nutrition and Metabolism Credits: 4
- NUTR 423 - Medical Nutrition Therapy I Credits: 3
- NUTR 425 - Medical Nutrition Therapy II Credits: 3
- NUTR 460 - Nutrigenomics and Molecular Nutrition Credits: 3
- NUTR 487 - Professionalism I Credits: 1
- NUTR 488 - Professionalism II Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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*	33 Credit Hours
College of Education and Human Sciences Requirements	4 Credit Hours
Major Requirements	82 Credit Hours
Electives**	1 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

Operations Management (B.S.)

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
605-688-4141

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 Operations Management 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.

Accreditation

The Ness School of Management and Economics is accredited by the Association to Advance Collegiate Schools of Business International (AACSB).

The Operations Management program is accredited by the Applied and Natural Science Accreditation Commission of ABET, under the General Criteria.

Course Delivery Format

The program provides coursework on the Brookings campus in classroom, laboratory, and field-based settings. The Operations Management program utilizes the First Dakota National Bank e-Trading Lab to provide simulations process analysis, CAD applications, and project development, and shares fabrication space in the AME Production Lab.

Academic Requirements

Students must earn a grade of "C" or better in BADM 485 - Strategic Management Credits: 3, CSC/MGMT 325 - Management Information Systems (COM) Credits: 3, HRM 460 - Human Resource Management (COM) Credits: 3, and MGMT 360 - Organization and Management (COM) Credits: 3.

If a student chooses to double major in two or more majors offered through the Ness School of Management and Economics, each major needs to have at least 15 credits that are distinct from the other major(s).

Requirements for Operations Management 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 Electives Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) and SGR # Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences:
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
 - PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3 and PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1 or PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3 and PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- BADM 485 - Strategic Management Credits: 3
- CM 130 - Management Tools and Analysis Credits: 3
- CSC 325 - Management Information Systems (COM) Credits: 3
- ECON 119 - First Year Seminar Credits: 1 or GE 101 - Introduction to Engineering and Technical Professions [HSDC] Credits: 1
- ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3
- ECON 319 - Seminar with Industry Leaders Credits: 1
- ET 210 - Introduction to Electronic Systems Credits: 3
- ET 210L - Introduction to Electronic Systems Lab Credits: 1
- ET 451 - Industrial Controls and PLCs Credits: 2
- ET 451L - Industrial Controls and PLCs Lab Credits: 1
- GE 121 - Engineering Design Graphics I Credits: 1 and GE 123 - Computer Aided Drawing Credits: 1 or ME 212 - Mechanical Engineering Design Technologies Credits: 2
- GE 231 - Technology, Society, and Ethics Credits: 3
- GE 425 - Occupational Safety and Health Management Credits: 3
- GE 470 - Project Management Credits: 2
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- MNET 367 - Production Strategy Credits: 2
- MNET 367L - Production Strategy Lab Credits: 1
- MNET 460 - Engineering Economic Analysis Credits: 3
- MNET 468 - Manufacturing Plant Management Credits: 3
- OM 240 - Decision Making Processes in Management Credits: 3
- OM 462 - Quality Management Credits: 3
- OM 463 - Supply Chain Management Credits: 3
- OM 472 - Cross-disciplinary Project Experience Credits: 3
- OM 490 - Seminar (COM) Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Select from the following

Select one emphasis. Credits: 21-22

Electronics Emphasis

- BLAW 350 - Legal Environment of Business (COM) Credits: 3 or MKTG 370 - Marketing (COM) Credits: 3
- ET 220 - Analog Electronics Credits: 3
- ET 220L - Analog Electronics Lab Credits: 1
- ET 232 - Digital Electronics and Microprocessors Credits: 2
- ET 232L - Digital Electronics and Microprocessors Lab Credits: 1
- ET 330 - Microcontrollers and Networks Credits: 2
- ET 330L - Microcontrollers and Networks Lab Credits: 1
- ET 380 - Circuit Boards and Design Credits: 2
- ET 380L - Circuit Boards and Design Lab Credits: 1
- OM 425 - Production and Operations Management Credits: 3 or OM 465 - Quality Control Applications Credits: 3
- Technical Electives Credits: 2-3

Manufacturing Emphasis

- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3
- MNET 231 - Manufacturing Processes I Credits: 2 and MNET 231L - Manufacturing Processes I Lab Credits: 1 or ME 121 - Production and Fabrication Processes Credits: 1 and ME 121L - Production and Fabrication Processes Lab Credits: 1
- OM 425 - Production and Operations Management Credits: 3
- OM 465 - Quality Control Applications Credits: 3
- Technical Electives Credits: 6-8

Supply Chain Management Emphasis

- BLAW 350 - Legal Environment of Business (COM) Credits: 3

- ET 232 - Digital Electronics and Microprocessors Credits: 2
and ET 232L - Digital Electronics and Microprocessors Lab Credits: 1
or ME 121 - Production and Fabrication Processes Credits: 1
and ME 121L - Production and Fabrication Processes Lab Credits: 1
or MNET 231 - Manufacturing Processes I Credits: 2
and MNET 231L - Manufacturing Processes I Lab Credits: 1
- MKTG 370 - Marketing (COM) Credits: 3
- OM 415 - Logistics and Transportation Management Credits: 3
- OM 425 - Production and Operations Management Credits: 3
- OM 435 - Warehouse Management Credits: 3
- Technical Electives Credits: 3-5

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. An Internship Plan must be approved by the Internship Coordinator prior to registering for credit. Further information can be found in the course syllabus and internship policy.

Summary of Program Requirements

Bachelor of Science

System General Education Requirements*	30-31 Credit Hours
Major Requirements	89-90 Credit Hours
Electives**	0 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Pharmaceutical Sciences (B.S.)

Program Contact/Coordinator

Dan Hansen, Laughrey Endowed Dean
Brad Laible, 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
605-688-6197 or 605-688-5591

Program Information

During the first two years of the B.S. in Pharmaceutical Sciences degree, students primarily complete general education requirements and a strong science core. These students then take courses alongside students who have been admitted to the Doctor of Pharmacy (Pharm.D.) program during their third and fourth year in the plan of study. The Pharm.D. is a graduate program and does require students to go through a competitive admission process. Refer to the Graduate Catalog for the course requirements for the last two years of the professional program.

The first two years of the curriculum provide a solid knowledge base and ability to use critical thought processes in the biological and physical sciences. The curriculum then incorporates a solid foundation of pharmaceutical science courses as well as a comprehensive sequence of clinical therapeutics. The application of drug knowledge, basic science, and critical thinking to resolve problems of drug distribution are emphasized throughout the curriculum. This degree sets students up to either enter the industry or be a gateway into a graduate degree.

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.

Course Delivery 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.

Program Admission

Preparation for the Major

In high school the student should take an academic curriculum in preparation for entrance to college. A sound foundational 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 and meet the admission 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, 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 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.

Early Assurance Pathway

Admission to the Pharm.D. Program by Early Assurance will require a student to:

- Submit an undergraduate admission application to SDSU
- Meet SDSU Freshmen Admission Requirements
- Submit an application for Early Assurance during senior year of high school
- Successfully complete an interview prior to the start of the Freshman year.

Progression into the 4-year core Pharm.D. curriculum will require:

- Overall cumulative GPA > 3.0
- By the end of the fall semester that proceeds the beginning of the desired Pharm.D. start date, students must have completed 7 of the 10 required math and science courses with a grade point average of at least 2.7 and no grade lower than C. Required courses are general chemistry, organic chemistry, general biology, calculus, microbiology, anatomy, physiology, statistics, and seminar pre-pharmacy coursework. Refer to the Additional Admissions Requirements section below for a list of courses.
- In their fourth semester, successful candidates must earn a grade of 'C' or better in the remaining required math and science courses and successfully pass an impromptu writing assessment.
 - Any student who is unable to meet the grade requirements listed above, will lose their place in the professional program. Students who lose their place in this manner may re-take courses to try to meet the academic requirements and re-apply through the traditional 4-year Pharm.D. application process.

Traditional Pathway

Applicants to the Doctor of Pharmacy (Pharm.D.) program will submit:

- The completed application

- Official transcripts
- Contact information for two references
- A short essay on the topic of "Why I want to obtain a Doctor of Pharmacy Degree at SDSU"
- A completed shadowing form
- Documentation of ACT, SAT, or PCAT scores is optional

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.

Curriculum Notes

- 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.
- Successful completion of capstone activities are required as part of the degree requirements for both the B.S. in Pharmaceutical Sciences and the Doctor of Pharmacy degrees.
- P3 year courses are taught in Sioux Falls.
- Introductory Pharmacy Practice Experiences (IPPEs) occur throughout the P1 – P3 years and may be completed during summer, fall, and spring semesters
- Advanced Pharmacy Practice Experiences (APPEs) occur in the P4 year and are completed during summer, 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 need to develop skills, abilities, and knowledge of a general practitioner.

Refused Status - A student will be placed on refused status if the student:

1. Earns a D, F, or U in a pharmacy course.
2. 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.

Requirements for Pharmaceutical Sciences Major: 138 Credits

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6

- Goal #5 Mathematics: MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1
- Goal #6 Natural Sciences: CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3, CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3, and CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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 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: 2
- 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: 3¹
- 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 430 - Pharmacy Practice Law and Ethics Credits: 4
- 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

Electives

- General Electives Credits: 3

Total Required Credits: 138

Notes

¹ PHA 410 must be completed in the summer semester after completion of all 300-level courses.

Summary of Program Requirements

Bachelor of Science

System General Education Requirements*	34 Credit Hours
Major Requirements	101 Credit Hours
Electives**	3 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Additional Admission Requirements

Early Assurance Pathway

Admission to the Pharm.D. Program by Early Assurance will require a student to:

- Submit an undergraduate admission application to SDSU
- Meet SDSU Freshmen Admission Requirements
- Submit an application for Early Assurance during senior year of high school
- Successfully complete an interview prior to the start of the Freshman year.

Progression into the 4-year core Pharm.D. curriculum will require:

- Overall cumulative GPA > 3.0
- By the end of the fall semester that precedes the beginning of the desired Pharm.D. start date, students must have completed 7 of the following 10 required math and science courses (listed immediately below) with a grade point average of at least 2.7 and no grade lower than C.
 - BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
 - BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
 - BIOL 221 - Human Anatomy (COM) Credits: 3
 - BIOL 221L - Human Anatomy Lab (COM) Credits: 1
 - BIOL 325 - Physiology (COM) Credits: 3
 - BIOL 325L - Physiology Lab (COM) Credits: 1
 - CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
 - CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
 - CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
 - CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
 - CHEM 326 - Organic Chemistry I (COM) Credits: 3
 - CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
 - CHEM 328 - Organic Chemistry II (COM) Credits: 3
 - CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
 - MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4
 - MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1
 - MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
 - MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
 - STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3
- In their fourth semester, successful candidates must earn a grade of 'C' or better in the remaining required math and science courses and successfully pass an impromptu writing assessment.
 - Any student who is unable to meet the grade requirements listed above, will lose their place in the professional program. Students who lose their place in this manner may re-take courses to try to meet the academic requirements and re-apply through the traditional 4-year Pharm.D. application process.

Traditional Pathway

Applicants to the Doctor of Pharmacy (Pharm.D.) program will submit:

- The completed application
- Official transcripts
- Contact information for two references
- A short essay on the topic of "Why I want to obtain a Doctor of Pharmacy Degree at SDSU"
- A completed shadowing form
- Documentation of ACT, SAT, or PCAT scores is optional

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 Human 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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP) and SHAPE America as the Specialized Professional Associations (SPA) Standards

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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 the program coordinator.

Course Delivery Format

The program provides instruction through traditional classroom settings, hybrid and online learning settings, as well as classes that mix of classroom, lab and field/clinical experiences.

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 103, and enrolled in or completion of (with a minimum C) PE 185. 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 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.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, HLTH, PE, SEED, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.

- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, HLTH, PE, SEED, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, HLTH, PE, SEED, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, HLTH, PE, SEED, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Requirements for Physical Education Teacher Education Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences: HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: 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

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- DANC 130 - Dance Fundamentals Credits: 1
- DANC 241 - Creative Movement for Children Credits: 2
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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 - Prevention and Care of Athletic Injuries (COM) Credits: 2
- EXS 354L - Prevention and Care of Athletic Injuries Lab (COM) Credits: 1
- HLTH 250 - Pre-Professional First Aid and CPR (COM) Credits: 2
- HLTH 420 - K-12 Methods of Health Instruction (COM) Credits: 2
- PE 185 - Introduction to Teaching Physical Literacy Credits: 2
- PE 185L - Introduction to Teaching Physical Literacy Lab Credits: 1
- PE 220 - Skills and Fitness Based Competencies: Fitness Credits: 2
- PE 220L - Skills and Fitness Based Competencies: Fitness Lab Credits: 1
- PE 221 - Skills & Fitness Based Competencies: Lifetime Activities Credits: 2
- PE 221L - Skills & Fitness Based Competencies: Lifetime Activities Lab Credits: 1
- PE 222 - Skills & Fitness Based Competencies: Tactical Games Credits: 2
- PE 222L - Skills & Fitness Based Competencies: Tactical Games Lab Credits: 1
- PE 275 - Science of Movement Credits: 2
- PE 275L - Science of Movement Lab Credits: 1
- PE 300 - Applied Sport and Exercise Science (COM) Credits: 3

- PE 341 - Curriculum Development and Evaluation (COM) Credits: 2
- PE 342 - Experiential Education in Physical Education Credits: 2
- PE 342L - Experiential Education in Physical Education Lab Credits: 1
- PE 352 - Adapted Physical Education (COM) Credits: 2
- PE 360 - K-8 Physical Education Methods (COM) Credits: 2
- PE 360L - K-8 Physical Education Methods Lab Credits: 1
- PE 460 - Theories, Strategies, and Application of Management and Instruction Credits: 2
- PE 460L - Theories, Strategies, and Application of Management and Instruction Lab Credits: 2
- 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
- SPED 100 - Introduction to Persons with Exceptionalities (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	85 Credit Hours
Electives**	1 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

Physics (B.S.)

Program Coordinator/Contact

Robert McTaggart, Assistant Department Head
Department of Chemistry, Biochemistry and 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.

Course Delivery Format

Physics students primarily learn through hands-on, in-person instruction in lectures, labs, and field experiences. While most courses are taught on campus, a few upper-level courses are offered online.

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-PHYS 213 (or PHYS 111-PHYS 113) and PHYS 331.

Requirements for Physics Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6¹
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4

- Goal #6 Natural Sciences: PHYS 211 - University Physics I (COM) [SGR #6, HSDC] Credits: 4 (Major Requirement), PHYS 211L - University Physics I Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement), PHYS 213 - University Physics II (COM) [SGR #6, HSDC] Credits: 4 (Major Requirement), and PHYS 213L - University Physics II Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement)

Department of Chemistry, Biochemistry and Physics Requirements

- Capstone course in the major discipline
- Upper division coursework Credits: 33

Major Requirements

- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CSC 150 - Computer Science I (COM) [HSDC] Credits: 3
- EE 216 - Linear Circuits I Credits: 3
- EE 216L - Linear Circuits I Lab Credits: 1
- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5, HSDC] Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- PHYS 119 - First Year Seminar in Physics (COM) Credits: 1
- PHYS 211 - University Physics I (COM) [SGR #6, HSDC] Credits: 4
- PHYS 211L - University Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 213 - University Physics II (COM) [SGR #6, HSDC] Credits: 4
- PHYS 213L - University Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 316 - Measurement Theory and Experiment Design Credits: 1
- PHYS 316L - Measurement Theory and Experiment Design Lab Credits: 1
- 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 - Electromagnetism (COM) Credits: 4
- PHYS 451 - Classical Mechanics (COM) Credits: 4
- PHYS 490 - Seminar (COM) Credits: 1-3 (2 credits required) (Capstone)

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 - 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 - Quantum Mechanics (COM) Credits: 4
- Electives: 8-9

Technical Electives

Credits: 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 department head. 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 - Analytical Chemistry (COM) Credits: 3
- CHEM 332L - Analytical Chemistry Lab (COM) Credits: 1
- EE 218 - Linear Circuits II Credits: 3
- EE 218L - Linear Circuits II Lab Credits: 1
- EE 222 - Energy Conversion Credits: 3
- EE 222L - Energy Conversion Lab Credits: 1
- EE 320 - Electronics I (COM) Credits: 3
- EE 320L - Electronics I Lab (COM) Credits: 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 331 - Advanced Engineering Mathematics (COM) Credits: 3
- MATH 374 - Scientific Computation I Credits: 3
- MATH 412 - Linear Algebra (COM) Credits: 3
- NE 435 - Introduction to Nuclear Engineering Credits: 3
- NE/ PHYS 437 - Foundations of Health Physics Credits: 3
- NE 494 - Internship (COM) Credits: 1-3
- NE 498 - Research (COM) Credits: 1-3
- PHIL 200 - Introduction to Logic (COM) [SGR #4, HSDC] Credits: 3
- PHYS 185 - Solar System Astronomy (COM) [SGR #6, HSDC] Credits: 2
- PHYS 185L - Solar System Astronomy Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 187 - Stars, Galaxies, and Cosmology (COM) [SGR #6, HSDC] Credits: 2
- PHYS 187L - Stars, Galaxies, and Cosmology Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 361 - Optics (COM) Credits: 3
- PHYS 418 - Advanced Lab II Credits: 1
- PHYS 433 - Nuclear and Elementary Particle Physics (COM) Credits: 4
- PHYS 439 - Condensed Matter Physics (COM) Credits: 3-4 (4 credits required)
- PHYS 449 - Computational Physics (COM) Credits: 4
- PHYS 471 - Quantum Mechanics (COM) Credits: 4
- PHYS 481 - Mathematical Physics (COM) Credits: 4
- PHYS 494 - Internship (COM) Credits: 1-4
- PHYS 498 - Research (COM) Credits: 1-12
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3

Group 2: Health/Medical Physics

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3 and CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1 or CHEM 332 - Analytical Chemistry (COM) Credits: 3 and CHEM 332L - Analytical Chemistry Lab (COM) Credits: 1 or PHYS 471 - Quantum Mechanics (COM) Credits: 4
- NE 437 - Foundations of Health Physics Credits: 3
- NE 435 - Introduction to Nuclear Engineering Credits: 3 or PHYS 433 - Nuclear and Elementary Particle Physics (COM) Credits: 4
- 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

Credits: 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 department head. 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 - Analytical Chemistry (COM) Credits: 3
- CHEM 332L - Analytical Chemistry Lab (COM) Credits: 1
- EE 218 - Linear Circuits II Credits: 3
- EE 218L - Linear Circuits II Lab Credits: 1
- EE 222 - Energy Conversion Credits: 3

- EE 222L - Energy Conversion Lab Credits: 1
- EE 320 - Electronics I (COM) Credits: 3
- EE 320L - Electronics I Lab (COM) Credits: 3
- 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 331 - Advanced Engineering Mathematics (COM) Credits: 3
- MATH 374 - Scientific Computation I Credits: 3
- MATH 412 - Linear Algebra (COM) Credits: 3
- ME 415 - Heat Transfer Credits: 3
- NE 435 - Introduction to Nuclear Engineering Credits: 3
- NE/ PHYS 437 - Foundations of Health Physics Credits: 3
- NE 494 - Internship (COM) Credits: 1-3
- NE 498 - Research (COM) Credits: 1-3
- PHIL 200 - Introduction to Logic (COM) [SGR #4, HSDC] Credits: 3
- PHYS 185 - Solar System Astronomy (COM) [SGR #6, HSDC] Credits: 2
- PHYS 185L - Solar System Astronomy Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 187 - Stars, Galaxies, and Cosmology (COM) [SGR #6, HSDC] Credits: 2
- PHYS 187L - Stars, Galaxies, and Cosmology Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 361 - Optics (COM) Credits: 3
- PHYS 418 - Advanced Lab II Credits: 1
- PHYS 433 - Nuclear and Elementary Particle Physics (COM) Credits: 4
- PHYS 439 - Condensed Matter Physics (COM) Credits: 3-4 (4 credits required)
- PHYS 449 - Computational Physics (COM) Credits: 4
- PHYS 471 - Quantum Mechanics (COM) Credits: 4
- PHYS 481 - Mathematical Physics (COM) Credits: 4
- PHYS 494 - Internship (COM) Credits: 1-4
- PHYS 498 - Research (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*	25 Credit Hours
Major Requirements	94 Credit Hours
Electives**	1 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Physics (B.S.) - Science Teaching Specialization

Program Coordinator/Contact

Robert McTaggart, Assistant Department Head
Department of Chemistry, Biochemistry and 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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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 primarily learn through hands-on, in-person instruction in lectures, labs, and field experiences. While most courses are taught on campus, a few upper-level courses are offered online.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

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-PHYS 213 (or PHYS 111-PHYS 113) and PHYS 331.
- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Requirements for Physics Major - Science Teaching Specialization: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3 (Teaching Specialization Requirement) and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Elective Credits: 6
- Goal #5 Mathematics: MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- Goal #6 Natural Sciences: PHYS 211 - University Physics I (COM) [SGR #6, HSDC] Credits: 4 (Major Requirement), PHYS 211L - University Physics I Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement), PHYS 213 - University Physics II (COM) [SGR #6, HSDC] Credits: 4 (Major Requirement), and PHYS 213L - University Physics II Lab (COM) [SGR #6, HSDC] Credits: 1 (Major Requirement)

Department of Chemistry, Biochemistry and Physics Requirements

- Capstone course in the major discipline
- Upper division coursework Credits: 33

Major Requirements

- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- EE 216 - Linear Circuits I Credits: 3
- EE 216L - Linear Circuits I Lab Credits: 1
- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5, HSDC] Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- PHYS 119 - First Year Seminar in Physics (COM) Credits: 1
- PHYS 185 - Solar System Astronomy (COM) [SGR #6, HSDC] Credits: 2 and PHYS 185L - Solar System Astronomy Lab (COM) [SGR #6, HSDC] Credits: 1 or PHYS 187 - Stars, Galaxies, and Cosmology (COM) [SGR #6, HSDC] Credits: 2 and PHYS 187L - Stars, Galaxies, and Cosmology Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 211 - University Physics I (COM) [SGR #6, HSDC] Credits: 4
- PHYS 211L - University Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 213 - University Physics II (COM) [SGR #6, HSDC] Credits: 4
- PHYS 213L - University Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 316 - Measurement Theory and Experiment Design Credits: 1
- PHYS 316L - Measurement Theory and Experiment Design Lab Credits: 1
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
- PHYS 341 - Thermodynamics (COM) Credits: 2
- PHYS 343 - Statistical Physics (COM) Credits: 2
- PHYS 421 - Electromagnetism (COM) Credits: 4
- PHYS 437 - Foundations of Health Physics Credits: 3
- PHYS 451 - Classical Mechanics (COM) Credits: 4

Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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 413 - 7-12 Science 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
- SPED 100 - Introduction to Persons with Exceptionalities (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*	22 Credit Hours
Major Requirements	57 Credit Hours
Teaching Specialization Requirements	40 Credits Hours
Electives**	1 Credit Hour

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Political Science (B.A./B.S.)

Program Coordinator/Contact

David Wiltse, Professor of Political Science
School of American and Global Studies
Lincoln Hall 327, Box 2212
605-688-6367

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.

Course Delivery Format

The program offers both online and on-campus courses.

Academic Requirements

No grade below a "C" in political science courses may be used to fulfill major or minor requirements.

Requirements for Political Science 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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

Major Requirements

- POLS 100 - American Government (COM) [SGR #3, HSDC] [CIV] Credits: 3
- POLS 101 - Introduction to Political Science (COM) Credits: 3
- POLS 102 - American Political Issues (COM) [SGR #3, HSDC] Credits: 3 or POLS 141 - Governments of the World (COM) [SGR #3, HSDC] Credits: 3
- POLS 253 - Current World Issues [SGR #3, HSDC] 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 - Introduction to GIS (COM) Credits: 2
 - GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
 - GEOG 459 - 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**	6+ Credit Hours
Major Requirements	42 Credit Hours
Electives***	42 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	42 Credit Hours
Electives***	44 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Precision Agriculture (B.S.)

Program Coordinator/Contact

Kasiviswanathan Muthukumarappan, Klingbeil Endowed Department Head
Department of Agricultural and Biosystems Engineering
Raven Precision Agriculture Center 136
605-688-5666

Karen Sanguinet, Klingbeil Endowed Department Head
Department of Agronomy, Horticulture and Plant Science
Raven Precision Agriculture Center 140
605-688-5123

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.

Course Delivery Format

Instruction will occur through a combination of traditional classroom methods, laboratory exercises using current agricultural production technologies, and agricultural mapping software.

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, PS 213L, and PRAG 475.

Requirements for Precision Agriculture Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: ENGL 277 - Technical Writing in Engineering [SGR #1, HSDC] Credits: 3 and SGR #1 Elective Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3

- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences: BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2, BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1, CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3, and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- AGECE 271 - Farm and Ranch Management Credits: 3
or AGECE 354 - Agricultural Marketing and Prices Credits: 3
or ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AST 119 - First Year Seminar Credits: 1
or PS 119 - First Year Seminar Credits: 1
- AST 273 - Agricultural Computer Applications Credits: 3
- AST 342 - Applied Electricity Credits: 2
- AST 342L - Applied Electricity Lab Credits: 1
- AST 390 - Seminar (COM) Credits: 1
or PS 490 - Seminar (COM) Credits: 1
- AST 412 - Fluid Power Technology Credits: 2
- AST 412L - Fluid Power Technology Lab Credits: 1
- AST 426 - Technology Applications for Precision Agriculture Credits: 2
- AST 426L - Technology Applications for Precision Agriculture Lab Credits: 1
- AST 494 - Internship (COM) Credits: 1-12 (1 credit required)
or PS 494 - Internship (COM) Credits: 1-2 (1 credit required)
- BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits: 2
- BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1
- PRAG 203 - Introduction to Precision Agriculture Credits: 2
- PRAG 203L - Introduction to Precision Agriculture Lab Credits: 1
- PRAG 285 - Agricultural Computations Credits: 2
- PRAG 304 - Electrical Diagnostics for Farm Machinery Credits: 2
- PRAG 304L - Electrical Diagnostics for Farm Machinery Lab Credits: 1
- PRAG 340 - Climate Risk Management with Precision Agriculture Credits: 3
- PRAG 423 - Soil Fertility and Plant Nutrient Management Credits: 3
- PRAG 427 - Precision Ag Data Mapping Credits: 2
- PRAG 428 - Use of Soil and Plant Sensors in Crop Production Credits: 3
- PRAG 440 - Crop Management with Precision Farming Credits: 2
- PRAG 440L - Crop Management with Precision Farming Lab Credits: 1
- PRAG 475 - Senior Capstone Credits: 3
- PS 103 - Crop Production Credits: 2
- PS 103L - Crop Production Lab Credits: 1
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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 - Wheat Production Credits: 2
- PRAG 425 - Soybean Production Credits: 2
- PRAG 426 - Corn Production Credits: 2

Technical Electives

Students will select 21 credits from one of the following emphasis areas. All courses must be selected from within the same emphasis area. Credits: 21

Cropping Systems Emphasis

Credits: 21

- CHEM 120 - Elementary Organic Chemistry Credits: 2
- CHEM 120L - Elementary Organic Chemistry Lab Credits: 1

Select from the following

Select 18 credits from the following. Credits: 18

- AST 313 - Farm Machinery Systems Management Credits: 2

- AST 313L - Farm Machinery Systems Management Lab Credits: 1
- AST 333 - Soil and Water Mechanics Credits: 2
- AST 333L - Soil and Water Mechanics Lab Credits: 1
- PRAG 345 - Principles and Implications of Chemical Application Systems Credits: 3
- PRAG 410 - Soil Geography and Land Use Interpretation Credits: 2
- PRAG 410L - Soil Geography and Land Use Interpretation Lab Credits: 1
- PS 223 - Principles of Plant Pathology Credits: 2
- PS 223L - Principles of Plant Pathology Lab Credits: 1
- PS 405 - Entomology (COM) Credits: 2
- PS 405L - Entomology Lab (COM) Credits: 1
- PS 407 - Insect Pest Management Credits: 2
- PS 407L - Insect Pest Management Lab Credits: 1
- PS 462 - Environmental Soil Management Credits: 2
- PS 462L - Environmental Soil Management Lab Credits: 1
- Any 200 level or above selected from AST, CSC, ET, GEOG, DSCI, ENTR, PS, HO, ME, CE, BADM, ECON, FIN, AS, AGECE Credits: 6

Data and Analytics Emphasis

Select 21 credits from the following. Credits: 21

- BADM 459 - Analytics (COM) Credits: 3
- GEOG 270 - Introduction to Small Uncrewed Aircraft Systems Credits: 3
- GEOG 280 - Introduction to Remote Sensing Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- GEOG 483 - UAS Remote Sensing Credits: 2
- GEOG 483L - UAS Remote Sensing Lab Credits: 1
- INFO 101 - Introduction to Informatics [HSDC] Credits: 3
- INFO 102 - Data Ethics (COM) [SGR #3, HSDC] Credits: 3
- STAT 101 - Introduction to Data Science Credits: 3
- STAT 410 - SAS Programming Credits: 3
- STAT 414 - Basic R Programming Credits: 1

Machinery Systems Emphasis

Credits: 21

- PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3
- PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1

Select from the following

Select 17 credits from the following list. Credits: 17

- AST 213 - Ag, Industrial and Outdoor Power Credits: 2
- AST 213L - Ag, Industrial and Outdoor Lab Credits: 1
- AST 313 - Farm Machinery Systems Management Credits: 2
- AST 313L - Farm Machinery Systems Management Lab Credits: 1
- ET 122 - Introductory Circuits Credits: 2
- ET 122L - Introductory Circuits Lab Credits: 2
- ET 210 - Introduction to Electronic Systems Credits: 3
- ET 210L - Introduction to Electronic Systems Lab Credits: 1
- ET 232 - Digital Electronics and Microprocessors Credits: 2
- ET 232L - Digital Electronics and Microprocessors Lab Credits: 1
- ET 240 - Techniques of Servicing Credits: 3
- INFO 101 - Introduction to Informatics [HSDC] Credits: 3
- INFO 102 - Data Ethics (COM) [SGR #3, HSDC] Credits: 3
- PRAG 345 - Principles and Implications of Chemical Application Systems Credits: 3
- PS 345 - Non-Chemical Weed Management Credits: 3
- Any 200-level or above selected from AST, CSC, ET, GEOG, DSCI, ENTR, PS, HORT, ME, CE, BADM, ECON, FIN, AS, AGECE Elective Credits: 6

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

Major Requirements 83 Credit Hours

Electives** 6 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

Psychology (B.A./B.S.)

Program Coordinator/Contact

Katie Derrick, Professional Advisor
School of Psychology, Sociology and Rural Studies
Psychology, Sociology and Rural Studies 110
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.

Course Delivery Format

Coursework for the program is delivered in multiple formats including face-to-face lecture and online courses.

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.

Requirements for Psychology Major: 120 Credits

Bachelor of Arts

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

Major Requirements

- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- PSYC 375 - Research Methods in Psychology (COM) Credits: 3
- PSYC 375L - Research Methods in Psychology Lab (COM) Credits: 1
- PSYC 376 - Research Methods II (COM) Credits: 3
- PSYC 376L - Research Methods II Lab (COM) Credits: 1

- 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

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*	27 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	6+ Credit Hours
Major Requirements	38 Credit Hours
Electives***	46 Credit Hours

Bachelor of Science

System General Education Requirements*	27 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	38 Credit Hours
Electives***	48 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

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

Program Coordinator/Contact

Katie Derrick, Professional Advisor
School of Psychology, Sociology and Rural Studies
Psychology, Sociology and Rural Studies 110
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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

Course Delivery Format

Coursework for the program is delivered in multiple formats including face-to-face lecture and online courses.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- Psychology does not permit the double use of courses in its major with a minor. A grade of "C" or better is required in academic major coursework (classes with PSYC prefix).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Requirements for Psychology Major - Teaching Specialization: 120 Credits

Bachelor of Arts

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

Major Requirements

- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- PSYC 375 - Research Methods in Psychology (COM) Credits: 3
- PSYC 375L - Research Methods in Psychology Lab (COM) Credits: 1
- PSYC 376 - Research Methods II (COM) Credits: 3
- PSYC 376L - Research Methods II Lab (COM) Credits: 1
- 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

Teaching Specialization Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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 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
- SPED 100 - Introduction to Persons with Exceptionalities (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* 27 Credit Hours

College of Arts, Humanities and Social Sciences Requirements** 6+ Credit Hours

Major Requirements 41 Credit Hours

Teaching Specialization Requirements 40 Credit Hours

Electives*** 6 Credit Hours

Bachelor of Science

System General Education Requirements* 27 Credit Hours

College of Arts, Humanities and Social Sciences Requirements** 10+ Credit Hours

Major Requirements 41 Credit Hours

Teaching Specialization Requirements 40 Credit Hours

Electives*** 8 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Public Relations (B.A./B.S.)

Program Coordinator/Contact

Rebecca A. Kuehl, Associate Director
Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211
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.

Accreditation

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).

Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

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.

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.

Requirements for Public Relations Major: 120 Credits

Bachelor of Arts

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one

department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and 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 - Basic Media Writing (COM) Credits: 3
- MCOM 220 - Introduction to Digital Media (COM) Credits: 3
- MCOM 270 - Data Analysis in Communication Credits: 3
- MCOM 331 - Video Production (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 - Mass Media in Society Credits: 3 or ADV 476 - Global and Multicultural Advertising Credits: 3 or CMST 470 - Intercultural Communication (COM) Credits: 3
- MCOM 430 - Media Law (COM) Credits: 3
- PUBR 243 - Public Relations Principles (COM) Credits: 3
- PUBR 345 - Public Relations Writing Credits: 3
- PUBR 411 - Media Analytics Credits: 3
- PUBR 442 - Integrated Marketing Communication and Campaigns (COM) Credits: 3 (Capstone)

Select from the following

Select nine credits from the following. Credits: 9

- ADV 314 - Digital Promotions Credits: 3
- ADV 371 - Advertising Copy and Design (COM) Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2, HSDC] Credits: 3
- CMST 311 - Business and Professional Communication (COM) Credits: 3
- CMST 422 - Persuasion (COM) Credits: 3
- HMG 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 - Basic Photography (COM) Credits: 3
- MCOM 266 - Photojournalism (COM) Credits: 3
- PUBR 472 - Research and Planning (COM) Credits: 3

Electives

Taken as needed to complete any additional degree requirements.

Total Required Credits: 120

Notes

- ADV 442 and PUBR 442 are equivalent courses in this major. Students must only take one of these courses in their program of study.
- ADV 472 and PUBR 472 are equivalent courses in this major. Students must only take one of these courses in their program of study.

Summary of Program Requirements

Bachelor of Arts

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	6+ Credit Hours
Major Requirements	44 Credit Hours
Electives***	40 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours

College of Arts, Humanities and Social Sciences Requirements 10+ Credit Hours**

Major Requirements 44 Credit Hours

Electives*** 42 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Respiratory Care (A.S.)

Program Coordinator/Contact

Marissa Trosen, Program Director
Department of Allied and Population Health
Sanford Hospital, Sioux Falls
605-333-6477

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, Monument Health Rapid City, Brookings Regional Health System, Madison Regional Health System, and Huron Regional Medical center). 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 13% between now and 2033, 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.

Accreditation

The South Dakota State University Respiratory Care Program, program numbers 200070 (Base Program) and 300015 (Satellite Program), granting the degree of Associate of Science in Respiratory Care, base program located on the campus of South Dakota State University and satellite program located on the campus of Monument Health Rapid City, is accredited by the Commission on Accreditation for Respiratory Care (CoARC).

CoARC accredits respiratory therapy education programs in the United States. To achieve this end, it utilizes an "outcomes 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. Program outcomes data is available on the CoARC website.

Certification and Licensure

Immediately upon graduation from the A.S. program, students are eligible to take the credentialing examination of the National Board of Respiratory Care to become a Registered Respiratory Therapist. This credential allows students to obtain a license to work.

Course Delivery Format

Courses are delivered through lecture, discussion, laboratory, and clinical practice experiences.

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.

Requirements for Respiratory Care Major: 68 Credits

Associate of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 3
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences:
 - BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- RESP 105 - Respiratory Care Physical Science Credits: 3
- RESP 110 - Introduction to Respiratory Care Credits: 4
- RESP 110L - Introduction to Respiratory Care Lab Credits: 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 - Respiratory Critical Care Credits: 3
- RESP 210L - Respiratory Critical Care Lab Credits: 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 - Neonatal and Pediatric Respiratory Care 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

Respiratory Care (B.S.)

Program Coordinator/Contact

Marissa Trosen, Program Director
Department of Allied and Population Health
Sanford Hospital, Sioux Falls
605-333-6477

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 13% between now and 2033, 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.

Accreditation

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.

South Dakota State University is currently in the process of seeking CoARC accreditation for a respiratory care program. However, South Dakota State University can provide no assurance that accreditation will be granted by the CoARC.

CoARC contact:

264 Precision Blvd Telford, TN 37690 USA
Telephone: 817-283-2835
Fax: 817-354-8519
Email: webmaster@coarc.com

Certification and 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.

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.

Requirements for Respiratory Care Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 3 * and SGR #1 Elective Credits: 3
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3 *
- Goal #3 Social Sciences: SGR #3 Electives Credits: 3 * and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3 *
- Goal #6 Natural Sciences:
 - BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 * and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1 *
 - CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 * and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 * and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1 *

Major Requirements

- BIOL 221 - Human Anatomy (COM) Credits: 3 *
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1 *
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
- PHA 330 - Pharmacology for Allied Health Professions Credits: 3
- RESP 105 - Respiratory Care Physical Science Credits: 3 *
- RESP 110 - Introduction to Respiratory Care Credits: 4 *
- RESP 110L - Introduction to Respiratory Care Lab Credits: 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 - Respiratory Critical Care Credits: 3 *
- RESP 210L - Respiratory Critical Care Lab Credits: 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 - Neonatal and Pediatric Respiratory Care 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, HSDC] 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

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Sociology (B.A./B.S.)

Program Coordinator/Contact

Katie Derrick, Professional Advisor
School of Psychology, Sociology and Rural Studies
Psychology, Sociology and Rural Studies 110
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 ever-evolving 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.

Course Delivery Format

Coursework for the program is delivered in multiple formats including face-to-face lecture and online courses.

Academic Requirements

- A minimum GPA of 2.2.
- A grade of C or better in all SOC courses.
- SOC courses applied to the Sociology major requirements (including the required 15 credit core and 18 credit SOC/ANTH electives) may not be applied to the Criminal Justice minor.

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: SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one

department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.

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 and 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**	6+ Credit Hours
Major Requirements	33 Credit Hours
Electives***	57 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	33 Credit Hours
Electives***	53 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Sociology (B.S.) - Teaching Specialization

Program Coordinator/Contact

Katie Derrick, Professional Advisor
School of Psychology, Sociology and Rural Studies
Psychology, Sociology and Rural Studies 110
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. Additionally, students complete pedagogy courses to prepare for employment in middle school or senior high level teaching.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.

- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

Course Delivery Format

Coursework for the program is delivered in multiple formats including face-to-face lecture and online courses.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- A grade of "C" or better is required in academic major coursework (classes with SOC prefix).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

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: SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3 (Major Requirement) and SGR #3 Elective Credits: 3
- Goal #4 Arts and Humanities: 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: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.
 - MATH and STAT courses do not count toward the science requirement.
- One declared minor outside of the major discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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 and Social Sciences for additional information about Bachelor of Science specifications.

Major Requirements

- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3
- 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, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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 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
- SPED 100 - Introduction to Persons with Exceptionalities (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*	27 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	36 Credit Hours
Teaching Specialization Requirements	40 Credit Hours
Electives***	13 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Spanish (B.A.)

Program Coordinator/Contact

José (Pepe) Álvarez, Associate Professor of Spanish
School of American and Global Studies
Lincoln Hall 321, Box 2212
605-688-4273

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.

Course Delivery Format

The Spanish major offers a combination of face-to-face on campus and online courses every semester. During the summer term, we also offer faculty-led study abroad programs and non-faculty-lead internships abroad as well as online courses.

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 school, 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 and 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.

Requirements for Spanish Major: 120 Credits

Bachelor of Arts

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+
- One declared minor outside of the major discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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 and 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, HSDC] Credits: 3
- SPAN 202 - Intermediate Spanish II (COM) [SGR #4, HSDC] 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 359 - Hispanic/Latinx Experiences in the US 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 491 - 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**	6+ Credit Hours
Major Requirements	36 Credit Hours
Electives***	54 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Spanish (B.A.) - Teaching Specialization

Program Coordinator/Contact

José (Pepe) Álvarez, Associate Professor of Spanish
School of American and Global Studies
Lincoln Hall 321, Box 2212
605-688-4273

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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- Apply online with the South Dakota Department of Education.
- Written recommendation from institution of higher education (SDSU) verifying program completion.

Course Delivery Format

The Spanish major offers a combination of face-to-face on campus and online courses every semester. During the summer term, we also offer faculty-led study abroad programs and non-faculty-lead internships abroad as well as online courses.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- A grade of "C" or better is required in academic major coursework (classes with SPAN or MFL prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

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 Advanced-Low is the target for majors with a teaching specialization.

Requirements for Spanish Major - Teaching Specialization: 120 Credits

Bachelor of Arts

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

- One declared minor outside of the major discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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 and Social Sciences for additional information about Bachelor of Arts specifications.

Major Requirements

- SPAN 201 - Intermediate Spanish I (COM) [SGR #4, HSDC] Credits: 3
- SPAN 202 - Intermediate Spanish II (COM) [SGR #4, HSDC] 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 24 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 359 - Hispanic/Latinx Experiences in the US 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 491 - 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, HSDC] Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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
- 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
- SPED 100 - Introduction to Persons with Exceptionalities (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**	6+ Credit Hours
Major Requirements	36 Credit Hours
Teaching Specialization Requirements	40 Credit Hours
Electives***	14 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.

**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.

Special Education (B.S.)

Program Coordinator/Contact

Lacy Knutson, Lucas P. Wintrobe Assistant Professor of Special Education
School of Education, Counseling and Human Development
Wenona Hall 211
605-688-5039

Program Information

The Special Education major prepares students to develop skills and competencies required of effective K-12 special education teachers. Special education teachers work with students who have a wide range of intellectual, physical, sensory, emotional, and mental abilities and neurodivergent students.

Accreditation

South Dakota State University's educator preparation programs are approved by the Council for the Accreditation of Educator Preparation (CAEP). Special Education is a new major at SDSU starting in the 2023-2024 academic year. This program will be eligible for accreditation review in 2026.

South Dakota Department of Education

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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 Special Education are delivered face-to-face, online, and hybrid (face-to-face and online combination). All SPED courses have practical applications in field experience settings in K-12.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ECE, ELED, ECE, PE, SEED, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ECE, ELED, ECE, PE, SEED, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ECE, ELED, ECE, PE, SEED, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, ECE, ELED, ECE, PE, SEED, or SPED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.

Requirements for Special Education Major: 120 Credits

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences:
 - HIST 151 - United States History I (COM) [SGR #3, HSDC] [CIV] Credits: 3 or HIST 152 - United States History II (COM) [SGR #3, HSDC] [CIV] Credits: 3 or POLS 100 - American Government (COM) [SGR #3, HSDC] [CIV] Credits: 3
 - PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- Goal #4 Arts and Humanities: ENGL 240 - Juvenile Literature [SGR #4, HSDC] Credits: 3 and SGR #4 Elective Credits: 3
- Goal #5 Mathematics: SGR #5 Electives Credits: 3
- Goal #6 Natural Sciences:
 - BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2 and BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1
 - GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3 and GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1 or GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3 and GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1

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, HSDC] Credits: 3
- ECE 241 - Child Development II: 3 to 8 Years Credits: 3
- EDFN 102 - Introduction to Education (COM) Credits: 3
- EDFN 340 - Adolescent Development in Educational Contexts Credits: 3

- EDFN 351 - Teaching and Learning I Credits: 1
- 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 456 - Capstone/Action Research Credits: 1
- ELED 310 - K-8 Methods of Music, Art and Drama (COM) Credits: 2
- ELED 320 - K-8 Science Methods (COM) Credits: 3
- ELED 330 - K-8 Math Methods (COM) Credits: 3
- ELED 360 - K-8 Social Science Methods (COM) Credits: 3
- ELED 440 - K-8 Language Arts Methods (COM) Credits: 3
- ELED 471 - Foundations of Reading Credits: 3
- PE 352 - Adapted Physical Education (COM) Credits: 2
- SEED 450 - Reading and Content Literacy (COM) Credits: 2
- SPED 100 - Introduction to Persons with Exceptionalities (COM) Credits: 3
- SPED 330 - Language Development and Assistive Technology Credits: 3
- SPED 380 - Neurodiversity Credits: 3
- SPED 410 - Behavior Management of Exceptional Children (COM) Credits: 3
- SPED 413 - Serving Students with Severe Disabilities (COM) Credits: 3
- SPED 420 - K-12 Curriculum and Instructional Strategies (COM) Credits: 3
- SPED 431 - Identification and Assessment in Special Education (COM) Credits: 3
- SPED 460 - Family Systems and Professional Collaborations (COM) Credits: 3
- SPED 485 - Special Education Law (COM) Credits: 3
- SPED 495 - Practicum (COM) Credits: 1-4 (2 credits required)

Electives

Taken as needed to complete any additional degree requirements.

Total Required Credits: 120

Notes

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	83 Credit Hours
Electives **	2 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
 **Taken as needed to complete any additional degree requirements.

Sport Management (B.S.)

Program Coordinator/Contact

Bryan Romsa, Assistant Professor
 School of Health and Human Sciences
 Wagner Hall 411
 605-688-6389

Program Information

Sport 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 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.

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.

Academic Requirements

A student in the major must have a 2.4 cumulative GPA to be recommended for the required internship experience. A grade of "C" or better is required in all RECR courses.

Requirements Sport Management Major: 120 Credits

Bachelor of Science

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3 and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] 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, HSDC] Credits: 3 or CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] 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, HSDC] Credits: 3
- HLTH 220 - Social Determinants of Health Credits: 3
- HMG 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 and Recreation Management Credits: 3
- RECR 260 - Fundamentals of Sport and Recreation Leadership Credits: 3
- RECR 311 - Ethics in Sport and Recreation Management Credits: 3
- RECR 315 - Psychosocial Aspects of Sport and Recreation Management Credits: 3
- RECR 410 - Current Issues in Recreation and Sport Credits: 3
- RECR 411 - Sports Marketing (COM) Credits: 3
- RECR 415 - Sport and Recreation Facility Management Credits: 3
- RECR 440 - Sport and Recreation Administration Credits: 3
- RECR 486 - Sport Law (COM) 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

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.
**Taken as needed to complete any additional degree requirements.

Studio Art (B.F.A.) - Art Education Specialization

Program Coordinator/Contact

Diana Behl, Associate Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Accreditation

Council for the Accreditation of Educator Preparation (CAEP)
South Dakota Department of Education
National Association of Schools of Art and Design

Certification and Licensure

- Completion of an approved teacher preparation program.
- Completion of an approved South Dakota Indian studies course.
- Pass the state designated content knowledge test or 2.7 GPA in content major coursework.
- Pass the state designated pedagogy test.
- 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.

Teacher Education Program Progression Requirements

Acceptance into Teacher Education

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA in the academic major of 2.6 is required.
- Completion of program application and professional licensure location form.

Acceptance into Residency I

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis content exam.
- The teacher candidate is also required to complete a criminal background check with field placements, a TB test with negative reading, and CPR and first aid certification.

Acceptance into Residency II

- A grade of "C" or better is required in education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).
- An overall GPA of 2.5 is required.
- A GPA of 2.7 is required in both major and education courses.
- The teacher candidate must take the Praxis PLT exam.

Academic Requirements

- Studio Art students must maintain at least a 2.7 GPA for all required major and education courses 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 education coursework (classes with AIS, EDFN, SPED, or SEED prefixes).

Requirements for Studio Art Major - Art Education Specialization: 128 Credits

Bachelor of Fine Arts

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences: AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3 (Teaching Specialization Requirement) and SGR #3 Electives Credits: 3
- Goal #4 Arts and Humanities: ARTH 211 - History of World Art I (COM) [SGR #4, HSDC] Credits: 3 ^{AH} (Supporting Coursework) and SGR #4 Electives Credits: 3
- Goal #5 Mathematics: SGR #5 Electives Credits: 3
- Goal #6 Natural Sciences: SGR #6 Electives Credits: 6

College of Arts and Sciences Requirements

Bachelor of Fine Arts Requirements

- 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 and 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, HSDC] 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, HSDC] Credits: 3
- DSGN 253 - Site Analysis and Surrounding Credits: 3
- ID 112 - Drafting and Visualization 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
- 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 252 - Site Planning Credits: 4

Major Requirement

- ART 111 - Drawing I (COM) [SGR #4, HSDC] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4, HSDC] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4, HSDC] 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)
- DSGN 482 - Travel Studies Credits: 1-5 (2 credits required)

Teacher Education Requirements

- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- ARTE 414 - K-12 Art Methods (COM) Credits: 3 (Teaching Content Methods Requirement)
- EDFN 102 - Introduction to Education (COM) Credits: 3
- 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
- SPED 100 - Introduction to Persons with Exceptionalities (COM) Credits: 3

Supporting Coursework

- ARTH 212 - History of World Art II (COM) [SGR #4, HSDC] 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}

Total Required Credits: 128

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*	24 Credit Hours
College of Arts, Humanities and Social Sciences Requirements	0 Credit Hours
School of Design Requirements**	12 Credit Hours
Major Requirements	41 Credit Hours
Teacher Education Requirements	39 Credit Hours
Supporting Coursework	12 Credit Hours
Electives***	0 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, College Requirements, and School Requirements.

**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.

Studio Art (B.F.A.) - Ceramics Specialization

Program Coordinator/Contact

Diana Behl, Associate Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Accreditation

National Association of Schools of Art and Design

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

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.

Requirements for Studio Art Major - Ceramics Specialization: 120 Credits

Bachelor of Fine Arts

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: ARTH 211 - History of World Art I (COM) [SGR #4, HSDC] 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

- 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 and 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, HSDC] 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, HSDC] Credits: 3
- DSGN 253 - Site Analysis and Surrounding Credits: 3
- DSGN 482 - Travel Studies Credits: 1-5 (3 credits required)
- ID 112 - Drafting and Visualization Credits: 3
- ID 180 - Introduction to Interior Design 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 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: 3
- LA 242 - People and the Environment Credits: 3
- LA 252 - Site Planning Credits: 4

Major Requirements

- ART 111 - Drawing I (COM) [SGR #4, HSDC] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4, HSDC] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4, HSDC] 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, ARTH, GDES, or AHSS 110 - Introduction to Museum Studies Elective Credits: 3
- ARTH 490 - Seminar (COM) Credits: 1-3 (3 credits required)
- DSGN 482 - Travel Studies Credits: 1-5 (1 credit required)

Supporting Coursework

- ART 192 - Topics (COM) Credits: 3 (Digital Photography) ^S or MCOM 265 - Basic Photography (COM) Credits: 3 ^S
- ARTH 212 - History of World Art II (COM) [SGR #4, HSDC] Credits: 3 ^{AH}
- ARTH 320 - Modern Art and Architecture Survey Credits: 3 ^{AH}
- GDES 101 - Computer Graphics [HSDC] 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	0 Credit Hours
School of Design Requirements**	14 Credit Hours
Major Requirements	61 Credit Hours
Supporting Coursework	12 Credit Hours
Electives***	3 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, College Requirements and School Requirements.

**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.

Studio Art (B.F.A.) - Painting Specialization

Program Coordinator/Contact

Diana Behl, Associate Professor

School of Design

Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Accreditation

National Association of Schools of Art and Design

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

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.

Requirements for Studio Art Major - Painting Specialization: 120 Credits

Bachelor of Fine Arts

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: ARTH 211 - History of World Art I (COM) [SGR #4, HSDC] 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

- 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 and 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, HSDC] 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, HSDC] Credits: 3
- DSGN 253 - Site Analysis and Surrounding Credits: 3
- DSGN 482 - Travel Studies Credits: 1-5 (3 credits required)
- ID 112 - Drafting and Visualization 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
- 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 242 - People and the Environment Credits: 3
- LA 252 - Site Planning Credits: 4

Major Requirements

- ART 111 - Drawing I (COM) [SGR #4, HSDC] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4, HSDC] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4, HSDC] 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, ARTH, GDES, or AHSS 110 - Introduction to Museum Studies Elective Credits: 3
- ARTH 490 - Seminar (COM) Credits: 1-3 (3 credits required)
- DSGN 482 - Travel Studies Credits: 1-5 (1 credit required)

Supporting Coursework

- ART 192 - Topics (COM) Credits: 3 (Digital Photography) ^S or MCOM 265 - Basic Photography (COM) Credits: 3 ^S
- ARTH 212 - History of World Art II (COM) [SGR #4, HSDC] Credits: 3 ^{AH}
- ARTH 320 - Modern Art and Architecture Survey Credits: 3 ^{AH}
- GDES 101 - Computer Graphics [HSDC] 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	0 Credit Hours
School of Design Requirements**	14 Credit Hours
Major Requirements	61 Credit Hours
Supporting Coursework	12 Credit Hours
Electives***	3 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, College Requirements and School Requirements.

**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.

Studio Art (B.F.A.) - Printmaking Specialization

Program Coordinator/Contact

Diana Behl, Associate Professor

School of Design

Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Accreditation

National Association of Schools of Art and Design

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

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.

Requirements for Studio Art Major - Printmaking Specialization: 120 Credits

Bachelor of Fine Arts

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6

- Goal #4 Arts and Humanities: ARTH 211 - History of World Art I (COM) [SGR #4, HSDC] 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

- 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 and 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, HSDC] 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, HSDC] Credits: 3
- DSGN 253 - Site Analysis and Surrounding Credits: 3
- DSGN 482 - Travel Studies Credits: 1-5 (3 credits required)
- ID 112 - Drafting and Visualization 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
- 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 242 - People and the Environment Credits: 3
- LA 252 - Site Planning Credits: 4

Major Requirements

- ART 111 - Drawing I (COM) [SGR #4, HSDC] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4, HSDC] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4, HSDC] 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 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)
- DSGN 482 - Travel Studies Credits: 1-5 (1 credit required)

Supporting Coursework

- ART 192 - Topics (COM) Credits: 3 (Digital Photography) ^S or MCOM 265 - Basic Photography (COM) Credits: 3 ^S

- ARTH 212 - History of World Art II (COM) [SGR #4, HSDC] Credits: 3 ^{AH}
- ARTH 320 - Modern Art and Architecture Survey Credits: 3 ^{AH}
- GDES 101 - Computer Graphics [HSDC] 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	0 Credit Hours
School of Design Requirements*	14 Credit Hours
Major Requirements	61 Credit Hours
Supporting Coursework	12 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.

Studio Art (B.F.A.) - Sculpture Specialization

Program Coordinator/Contact

Diana Behl, Associate Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Accreditation

National Association of Schools of Art and Design

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

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.

Requirements for Studio Art Major - Sculpture Specialization: 120 Credits

Bachelor of Fine Arts

System General Education Requirements

- Goal #1 Written Communication: SGR #1 Electives Credits: 6
- Goal #2 Oral Communication: SGR #2 Electives Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: ARTH 211 - History of World Art I (COM) [SGR #4, HSDC] 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

- 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 and 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, HSDC] 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, HSDC] Credits: 3
- DSGN 253 - Site Analysis and Surrounding Credits: 3
- DSGN 482 - Travel Studies Credits: 1-5 (3 credits required)
- ID 112 - Drafting and Visualization 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
- 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 242 - People and the Environment Credits: 3
- LA 252 - Site Planning Credits: 4

Major Requirements

- ART 111 - Drawing I (COM) [SGR #4, HSDC] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4, HSDC] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4, HSDC] 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, ARTH, GDES, or AHSS 110 - Introduction to Museum Studies Elective Credits: 3
- ARTH 490 - Seminar (COM) Credits: 1-3 (3 credits required)
- DSGN 482 - Travel Studies Credits: 1-5 (1 credit required)

Supporting Coursework

- ART 192 - Topics (COM) Credits: 3 (Digital Photography) ^S or MCOM 265 - Basic Photography (COM) Credits: 3 ^S
- ARTH 212 - History of World Art II (COM) [SGR #4, HSDC] Credits: 3 ^{AH}
- ARTH 320 - Modern Art and Architecture Survey Credits: 3 ^{AH}
- GDES 101 - Computer Graphics [HSDC] 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	0 Credit Hours
School of Design Requirements**	14 Credit Hours
Major Requirements	61 Credit Hours
Supporting Coursework	12 Credit Hours
Electives***	3 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, College Requirements and School Requirements.

**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.

Theatre (B.A./B.S.)

Program Coordinator/Contact

Jim Wood, Program Coordinator
School of Performing Arts
Oscar Larson Performing Arts Center 189N, 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.

Accreditation

South Dakota State University's theatre program is accredited by the National Association of Schools of Theatre.

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.

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.

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: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: 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 discipline OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or school or it may be interdisciplinary involving more than one department or school. 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: 6+

- Modern Foreign Language including the 202-Level Credits: 6+

Bachelor of Science Requirements: 10+

- Natural Sciences Credits: 10+
 - Any two lab sciences.
 - Coursework must include 2 prefixes.

- MATH and STAT courses do not count toward the science requirement.
- 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 and Social Sciences for additional information about Bachelor of Arts and Bachelor of Science specifications.

Major Requirements

- DANC 131 - Movement I Credits: 2
- THEA 119 - First Year Seminar (COM) Credits: 2
- THEA 131 - Introduction to Acting (COM) [SGR #4, HSDC] Credits: 3
- THEA 240 - Stage Costuming (COM) Credits: 3
- THEA 241 - Stagecraft (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, HSDC] Credits: 3
- THEA 243 - Make-Up (COM) Credits: 3
- THEA 325 - Playwriting Credits: 3
- THEA 333 - Intermediate Acting Credits: 3
- THEA 340 - Stage Combat Credits: 3
- THEA 375 - Theatre Arts Management Credits: 3
- THEA 441 - Scene Design (COM) Credits: 3
- THEA 443 - Costume Design (COM) Credits: 3
- THEA 445 - Lighting (COM) Credits: 3
- THEA 447 - Sound Design for the Performing Arts Credits: 3
- THEA 451 - Advanced Directing (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**	6+ Credit Hours
Major Requirements	51 Credit Hours
Electives***	33 Credit Hours

Bachelor of Science

System General Education Requirements*	30 Credit Hours
College of Arts, Humanities and Social Sciences Requirements**	10+ Credit Hours
Major Requirements	51 Credit Hours

Electives***	35 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements, Supporting Coursework, and College Requirements.
 **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

Wildlife and Fisheries Sciences (B.S.)

Program Coordinator/Contact

Bill Severud, Assistant Professor
 Department of Natural Resource Management
 Edgar S. McFadden Biostress Laboratory, Room 143
 605-688-5121

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. Embedded 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.

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: SGR #1 Elective Credits: 6
- Goal #2 Oral Communication: SGR #2 Elective Credits: 3
- Goal #3 Social Sciences: SGR #3 Electives Credits: 6
- Goal #4 Arts and Humanities: SGR #4 Electives Credits: 6
- Goal #5 Mathematics: MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- Goal #6 Natural Sciences:
 - BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
 - PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3 and PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1
or PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3 and PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1

Major Requirements

- AS 332 - Livestock Breeding and Genetics Credits: 4
or BIOL 371 - Genetics (COM) Credits: 3
- BOT 201 - General Botany (COM) [SGR #6, HSDC] Credits: 2
- BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 and CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4 and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1
or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1

- and CHEM 326 - Organic Chemistry I (COM) Credits: 3
- and CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- and CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- or PS 213 - Soils [SGR #6, HSDC] Credits: 2 (recommended)
- and PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- or PS 243 - Principles of Geology [SGR #6, HSDC] Credits: 3
- ENGL 379 - Technical Communication (COM) Credits: 3
- or CMST 215 - Public Speaking (COM) [SGR #2, HSDC] 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 - Natural Resource Statistics Credits: 2
- and NRM 282L - Natural Resource Statistics Lab Credits: 1
- or STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- WL 411 - Principles of Wildlife Management Credits: 2
- WL 411L - Principles of Wildlife Management Lab Credits: 1
- WL 412 - Principles of Fisheries Management Credits: 2
- WL 412L - Principles of Fisheries Management Lab Credits: 1

Botany Requirement

Select 3 credits from the following courses. Credits: 3

- BOT 301 - Plant Systematics (COM) Credits: 2
- BOT 301L - Plant Systematics Lab (COM) Credits: 1
- BOT 303 - Forest Ecology and Management Credits: 2
- BOT 303L - Forest Ecology and Management Lab Credits: 1
- BOT 405 - Grasses and Grasslike Plants Credits: 1
- BOT 405L - Grasses and Grasslike Plants Lab Credits: 2
- BOT 415 - Aquatic Plants Credits: 1
- BOT 415L - Aquatic Plants Lab Credits: 2
- BOT/ RANG 419 - Plant Ecology (COM) Credits: 2
- BOT/ RANG 419L - Plant Ecology Lab (COM) Credits: 1

Organismal Group Electives

Select 3 of the following courses. Credits: 9-10

- WL 355 - Mammalogy (COM) Credits: 3
- WL 355L - Mammalogy Lab (COM) Credits: 1
- WL 363 - Ornithology (COM) Credits: 3
- WL 363L - Ornithology Lab (COM) Credits: 1
- WL 367 - Ichthyology Credits: 2
- WL 367L - Ichthyology Lab Credits: 1
- WL 418 - Ecology of Aquatic Invertebrates Credits: 2
- WL 418L - Ecology of Aquatic Invertebrates Lab Credits: 1
- WL 434 - Herpetology (COM) Credits: 2
- WL 434L - Herpetology Lab (COM) Credits: 1

Advanced Group Electives

Select 3 of the following courses. Credits: 9-10

- BIOL 373 - Evolution (COM) Credits: 3
- EES 425 - Disturbance and Restoration Ecology Credits: 3
- EES 430 - Biological Invasions Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- NRM 350 - Conservation and Management of Endangered and Nongame Wildlife Credits: 3
- NRM 410 - Conservation Biology (COM) Credits: 3
- NRM 450 - Freshwater Monitoring and Assessment Credits: 2
- NRM 450L - Freshwater Monitoring and Assessment Lab Credits: 1
- NRM 464 - Ecosystem Ecology Credits: 3
- NRM 466 - Environmental Toxicology and Contaminants (COM) Credits: 3
- NRM 482 - Natural Resource Management Biometry Credits: 2
- NRM 482L - Natural Resource Management Biometry Lab Credits: 1
- RANG 321 - Wildland Ecosystems Credits: 3

- RANG 374 - Habitat Conservation and Management Credits: 3
- RANG 374L - Habitat Conservation and Management Lab Credits: 1
- WL 415 - Upland Game Ecology and Management Credits: 2
- WL 415L - Upland Game Ecology and Management Lab Credits: 1
- WL 417 - Large Mammal Ecology and Management Credits: 2
- WL 417L - Large Mammal Ecology and Management Lab Credits: 1
- WL 419 - Waterfowl Ecology and Management Credits: 2
- WL 419L - Waterfowl Ecology and Management Lab Credits: 1
- WL 421 - Grassland Fire Ecology Credits: 3
- WL 425 - Wildlife Disease Credits: 2
- WL 425L - Wildlife Disease Lab Credits: 1
- WL 427 - Limnology and Stream Ecology Credits: 2
- WL 427L - Limnology and Stream Ecology Lab Credits: 1
- WL 429 - Ecology of Fishes and Habitat Credits: 3
- WL 431 - Advanced Fisheries Management Credits: 2
- WL 431L - Advanced Fisheries Management Lab Credits: 1

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
Major Requirements	67-72 Credit Hours
Electives**	16-21 Credit Hours

*System General Education Requirements for students pursuing a baccalaureate degree shall include a minimum of 30 credit hours. Some general education coursework may be counted for Major Requirements and Supporting Coursework.

**Taken as needed to complete any additional degree requirements.

Minors

Accounting Minor

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
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.

Course Delivery Format

The program offers courses on campus, with limited online coursework.

Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

Requirements for Accounting Minor: 18 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
- or ACCT 360 - Accounting Systems (COM) Credits: 3
- or ACCT 450 - Auditing (COM) Credits: 3
- or BADM 459 - Analytics (COM) Credits: 3
- ACCT 320 - Cost Accounting (COM) Credits: 3
- ACCT 430 - Income Tax Accounting (COM) Credits: 3

Total Required Credits: 18

Advertising Minor

Program Coordinator/Contact

Rebecca A. Kuehl, Associate Director
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.

Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

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.

Requirements for Advertising Minor: 18 Credits

- ADV 370 - Advertising Principles (COM) Credits: 3
- ADV 371 - Advertising Copy and Design (COM) Credits: 3
- ADV 372 - Advertising Media Strategies Credits: 3
- ADV 476 - Global and Multicultural Advertising Credits: 3

Select from the following:

Credits: 6

- ADV 314 - Digital Promotions Credits: 3
- ADV 442 - Integrated Marketing Communication and Campaigns (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 - Basic Photography (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.

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 - Aerodynamics Credits: 3

Select from the following

Select six credits from the following. Credits: 6

- ME 413 - Turbomachinery Credits: 3

- ME 417 - Computer-Aided Engineering Credits: 3
- ME 437 - Gas Dynamics I Credits: 3
- ME 441 - Robotic Systems Credits: 3
- ME 442 - Applications of Computational Fluid Dynamics Credits: 3

Total Required Credits: 18

Aerospace Studies Minor

Program Coordinator/Contact

Lt Col Gary Priest, Department Head
AFROTC / Aerospace Studies
DePuy Military Hall Room 100, Box 2236
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.

Course Delivery Format

The Aerospace Studies curriculum is divided into two courses of instruction. The General Military Course (GMC) is open to all students and consists of a one-credit academic course and laboratory taken each semester during the freshman and sophomore years. At the end of the GMC, students compete to enter the Professional Officer Course (POC). The POC includes a three-credit academic course and laboratory taken each semester during the junior and senior years in addition to various duties and responsibilities within the Cadet Wing organization. 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 to serve on active duty. 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.

Academic Requirements

AFROTC students must achieve and maintain a minimum 2.0 cumulative GPA and receive no lower than a B in all AFROTC courses to continue in the program.

Sole US citizenship, either by birth or by naturalization, is a requirement of commissioning into the US Air Force or US Space Force. Non-US citizens pursuing citizenship may participate in the program, but will not be allowed to commission until proof of US citizenship is verified by AFROTC.

Requirements for Aerospace Studies Minor: 18 Credits

- AIR 101 - The Foundations of the US Air Force Credits: 1
- AIR 101L - The Foundations of the US Air Force Lab Credits: 0
- AIR 102 - The Foundations of the US Air Force Credits: 1
- AIR 102L - The Foundations of the US Air Force Lab Credits: 0
- AIR 201 - Team and Leadership Fundamentals I Credits: 1
- AIR 201L - Team and Leadership Fundamentals I Lab Credits: 0
- AIR 202 - Team and Leadership Fundamentals II Credits: 1
- AIR 202L - Team and Leadership Fundamentals II Lab Credits: 0
- AIR 301 - Air Force Leadership Studies Credits: 3
- AIR 301L - Air Force Leadership Studies Lab Credits: 0

- AIR 302 - Air Force Leadership Studies Credits: 3
- AIR 302L - Air Force Leadership Studies Lab Credits: 0
- AIR 401 - National Security Affairs/Preparation for Active Duty Credits: 3
- AIR 401L - National Security Affairs/Preparation for Active Duty Lab Credits: 0
- AIR 402 - National Security Affairs/Preparation for Active Duty Credits: 3
- AIR 402L - National Security Affairs/Preparation for Active Duty Lab Credits: 0

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 100
605-688-4141

Program Information

The agribusiness marketing minor prepares students for marketing and sales positions in agriculture. Marketing in today's agribusiness industry requires market knowledge, personal selling skill and product knowledge. The minor combines marketing and sales classes with products oriented classes to prepare students for sales careers in feed, seed, equipment, finance, insurance, local foods and many more.

Course Delivery Format

The program offers courses on campus, with limited online coursework.

Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

Requirements for Agribusiness Marketing Minor: 18 Credits

- AGECE 274 - Agribusiness Sales Credits: 3
or MKTG 474 - Personal Selling (COM) Credits: 3
- AGECE 354 - Agricultural Marketing and Prices Credits: 3
- ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3

Select from the following

Select six credits from the following list. Credits: 6

- AGECE/MKTG 490 - Seminar (COM) Credits: 1-3 (3 credits required) (NAMA) (Students must be involved in NAMA club for one full semester before taking AGECE/MKTG 490 for credit)
- AS 218 - Survey of Animal Nutrition Credits: 3
or AS 319 - Livestock Feeds and Feeding Credits: 2
and AS 319L - Livestock Feeds and Feeding Lab Credits: 1
- AS 285 - Livestock Evaluation and Marketing Credits: 2
- AS 285L - Livestock Evaluation and Marketing Lab Credits: 1
- AST 313 - Farm Machinery Systems Management Credits: 2
- AST 313L - Farm Machinery Systems Management Lab Credits: 1
- HO/PS 434 - 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 - Marketing Research (COM) Credits: 3
- PS 403 - Seed Technology Credits: 2
- PS 403L - Seed Technology Lab Credits: 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 100
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.

Course Delivery Format

The program offers courses on campus and online.

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 AGECE.

Requirements for Agricultural Business Minor: 18 Credits

- AGECE 354 - Agricultural Marketing and Prices Credits: 3
- AGECE 371 - Agricultural Business Management Credits: 3
or MGMT 360 - Organization and Management (COM) Credits: 3
- ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3

Select from the following

Select nine credits from the following list. Credits: 9

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AGECE 271 - Farm and Ranch Management Credits: 3
- AGECE/BLAW 352 - Agricultural Law Credits: 3
or AGECE/BLAW 462 - Environmental Law Credits: 3
or AGECE/BLAW 366 - Food Law Credits: 3
or BLAW 350 - Legal Environment of Business (COM) Credits: 3
- AGECE 364 - Introduction to Cooperatives Credits: 3
- AGECE 471 - Advanced Farm and Ranch Management Credits: 3
- AGECE 478 - Agricultural Finance Credits: 3
- AGECE 479 - 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 AGECE.

Agronomy Minor

Program Coordinator/Contact

Karen Sanguinet, Klingbeil Endowed Department Head
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.

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.

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.

Requirements for Agronomy Minor: 18 Credits

- PRAG 423 - Soil Fertility and Plant Nutrient Management Credits: 3
- PS 103 - Crop Production Credits: 2
- PS 103L - Crop Production Lab Credits: 1
- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 1
- PS 223 - Principles of Plant Pathology Credits: 2
- PS 223L - Principles of Plant Pathology Lab Credits: 1
- PS 405 - Entomology (COM) Credits: 2
and PS 405L - Entomology Lab (COM) Credits: 1
or PS 407 - Insect Pest Management Credits: 2
and PS 407L - Insect Pest Management Lab Credits: 1
- PS 445 - Weed Science Credits: 2
- PS 445L - Weed Science Lab Credits: 1

Total Required Credits: 18

American Indian and Indigenous Studies Minor

Program Coordinator/Contact

Jamie Folsom, Assistant Professor of American Indian and Indigenous Studies
School of American and Global Studies
Lincoln Hall 227, Box 2212
605-688-4087

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.

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, HSDC] Credits: 4

Select from the following

Select 10-12 credits from the following list. Credits: 10-12

- AIS/ LAKL 102 - Introductory Lakota II (COM) [SGR #4, HSDC] Credits: 4
- AIS 211 - South Dakota American Indian Culture and Education (COM) [SGR #3, HSDC] Credits: 3
- AIS 240 - Contemporary Indigenous Issues Credits: 3
- AIS/ HIST 368 - History and Culture of the American Indian (COM) Credits: 3
- AIS/ HIST 373 - Oral History Credits: 3
- AIS/ MCOM 412 - Cultural Issues in Mass Communication Credits: 3
- AIS/ HIST 419 - World Environmental History (COM) Credits: 3
- AIS/ MCOM 420 - Indigenized Media: Rising Voices in Digital Storytelling Credits: 3
- AIS 430 - Indigenous Relationships to the Environment Credits: 3
- AIS/ ENGL 445 - American Indian Literature (COM) 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 and 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.

Course Delivery Format

Coursework for the program is delivered on campus in classroom and laboratory-based settings.

Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

Requirements for Animal Health Minor: 18 Credits

- VET 120 - Introduction to Veterinary Medicine Credits: 1
- VET 183 - Veterinary Medical Terminology Credits: 1
- VET 223 - Anatomy and Physiology of Domestic Animals Credits: 3
- VET 223L - Anatomy and Physiology of Domestic Animals Lab Credits: 1
- VET 403 - Animal Diseases and Their Control Credits: 3

Select from the following

Select three courses from the following. Credits: 9

- BIOL 467 - Parasitology (COM) Credits: 2
- BIOL 467L - Parasitology Lab (COM) Credits: 1
- HSC 445 - Epidemiology Credits: 3
- MICR 433 - Medical Microbiology (COM) Credits: 3
- MICR 439 - Medical and Veterinary Immunology Credits: 3
- MICR 440L - Infectious Disease Lab Credits: 3
- VET 424 - Medical and Veterinary Virology Credits: 3
- VET 476 - Advanced Mammalian Physiology Credits: 4
- WL 425 - Wildlife Disease Credits: 2
- WL 425L - Wildlife Disease Lab Credits: 1

Total Required Credits: 18

Animal Science Minor

Program Coordinator/Contact

John Killefer, Professor
Department of Animal Science
Animal Science Complex 101
605-688-5165

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.

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 - Introduction to Animal Science Credits: 3
and AS 101L - Introduction to Animal Science Lab Credits: 1
or AS 102 - Fundamentals of Animal Science [HSDC] Credits: 3
- AS 218 - Survey of Animal Nutrition Credits: 3
or AS 319 - Livestock Feeds and Feeding Credits: 2
and AS 319L - Livestock Feeds and Feeding Lab Credits: 1
- AS 241 - Introduction to Meat Science Credits: 2

- and AS 241L - Introduction to Meat Science Lab Credits: 1
or AS 285 - Livestock Evaluation and Marketing Credits: 2
and AS 285L - Livestock Evaluation and Marketing Lab Credits: 1
- 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 - Introduction to Horse Management Credits: 2
- AS 104L - Introduction to Horse Management Lab Credits: 1
- 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 - Introduction to Horse Management Credits: 2
- AS 104L - Introduction to Horse Management Lab Credits: 1
- 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 - Livestock Reproduction Credits: 2
- AS 333L - Livestock Reproduction Lab Credits: 1
- AS 389 - Current Issues in Animal Science Credits: 3
- VET 403 - Animal Diseases and Their Control Credits: 3

Total Required Credits: 18

Apparel and Fashion Studies Minor

Program Coordinator/Contact

Anne-Marie Junker, Instructor
School of Health and Human Sciences
Wagner Hall 435, Box 2275A
605-688-4002

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.

Course Delivery Format

Students learn through lecture, laboratory, and hands-on learning experiences.

Academic Requirements

Fashion Studies and Retail Merchandising majors are not eligible for the minor.

Requirements for Apparel and Fashion Studies Minor: 18 Credits

- FSRM 172 - Introduction to Apparel Merchandising Credits: 2
- FSRM 231 - Ready-To-Wear Analysis Credits: 2
- FSRM 231L - Ready-To-Wear Analysis Lab Credits: 1
- FSRM 242 - Textiles I Credits: 2
- FSRM 242L - Textiles I Lab Credits: 1
- FSRM 274 - Fashion Promotion Credits: 2
- FSRM 274L - Fashion Promotion Lab Credits: 1

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 315 - Apparel Design Credits: 2
- FSRM 315L - Apparel Design Lab Credits: 1
- FSRM 352 - History of Dress in the Western World Credits: 3
- FSRM 361 - Aesthetics Credits: 3
- FSRM 372 - Trending and Buying Credits: 3

- FSRM 462 - Retail Management Credits: 3
- FSRM 472 - Merchandising Credits: 2
- FSRM 472L - Merchandising Lab Credits: 1
- FSRM 473 - Global Sourcing Credits: 2
- FSRM 473L - Global Sourcing Lab Credits: 1
- FSRM 477 - Current Issues in the Workplace Credits: 1
- FSRM 491 - Independent Study (COM) Credits: 1-3 (1 credit required)
- HMG 282 - Customer Service Credits: 3

Total Required Credits: 18

Applied Thinking and Innovation Minor

Program Coordinator/Contact

Hanna Holmquist, Instructor of Curricular Innovation
Van D. and Barbara B. Fishback Honors College
Honors Hall 119, SHON Box 2705A
605-688-6006

Program Information

The Applied Thinking and Innovation Minor enables students in varying academic colleges and backgrounds to unite in a cross-disciplinary setting to explore perspectives on a range of societal issues. The minor will enrich students' aptitude in critical thinking, collaboration, and innovative inquiry. This program is focused on developing interpersonal and critical thinking skills that students can apply to any major and career field to make them more competitive and better prepared to enter the workforce and contribute to their communities after graduation. Courses that comprise the minor are specifically designed to prepare students for success in their professional careers. This minor is open to all majors.

This minor can serve as a pathway to Honors College distinction for students who choose to complete an additional 6 credits of Honors coursework and earn a 3.5 cumulative grade point average upon graduation. However, students can also complete this minor without pursuing Honors College Distinction.

Course Delivery Format

This program provides coursework on the Brookings main campus. Some courses also have online options.

Academic Requirements

In order to count toward the minor, courses must be passed with a minimum grade of "C."

Requirements for Applied Thinking and Innovation Minor: 18 Credits

- HON 110 - Honors College Orientation Credits: 1
- HON 210 - Leadership for Change Credits: 1
- HON 310 - Thinking in Systems Credits: 1
- HON 383 - Honors Colloquium Credits: 1-3 (3 credits required)
or HON 482 - Travel Studies Credits: 1-3 (3 credits required)
- HON 410 - Innovation and Impact Credits: 1
- HON 498 - Research (COM) Credits: 1-12 (2 credits required)
*HON 498 could be replaced by approved research or capstone credits within another discipline.

Select from the following

Select 3 credits from the following list. Credits: 3

- HON 346 - Honors Collaborative Discovery and Innovation Credits: 1
- HON 376 - The Justice Challenge Credits: 2
- HON 377 - Honors Hackathon Credits: 1
- HON 378 - Honors Design Challenge Credits: 3
- HON 383 - Honors Colloquium Credits: 1-3
- HON 482 - Travel Studies Credits: 1-3

Select from the following

Select 6 credits from the following list. A maximum of 3 credits can come from HON 495 and/or Honors Experiential Learning credit. Credits: 6

- HON 346 - Honors Collaborative Discovery and Innovation Credits: 1
- HON 376 - The Justice Challenge Credits: 2
- HON 377 - Honors Hackathon Credits: 1
- HON 378 - Honors Design Challenge Credits: 3
- HON 383 - Honors Colloquium Credits: 1-3 (0-6 credits required)
- HON 482 - Travel Studies Credits: 1-3 (0-6 credits required)

- HON 491 - Independent Study (COM) Credits: 1-3 (0-6 credits required)
 - HON 495 - Practicum (COM) Credits: 1-12 (0-3 credits required)
 - HON 498 - Research (COM) Credits: 1-12 (0-6 credits required)
 - Honors-designated courses in any discipline Credits: 1-6
 - Honors contracted courses in any discipline Credits: 1-6
 - Honors Experiential Learning Credits: 1-3
Students can earn credit for the following experiences:
 - Graduate-level coursework as an undergraduate student
 - Non-Honors study abroad/travel study*
 - Internship*
 - Non-Honors teaching assistant/research assistant credit*
 - Student teaching/practicum*
 - Clinical experience*
- *Requires additional reflection

Total Required Credits: 18

Aviation Minor

Program Coordinator/Contact

Maria Julius, Instructor
School of Health and Human 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.

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

Jeremy Chambers, 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.

Course Delivery Format

Program coursework is on campus, in classroom and laboratories, as well as field-based settings. Limited coursework is available online.

Academic Requirements

A minimum GPA of 2.0 must be maintained in the major courses.

Requirements for Biology Minor: 18 Credits

- BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2
and BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1
or BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
and BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1

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

Xiaojun Xian, Assistant Professor
McComish Department of Electrical Engineering and Computer Science
Daktronics Engineering Hall 217
605-688-4736

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.

Requirements for Biomedical Engineering Minor: 18

- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- EE 454 - Biomedical Instrumentation and Electrical Safety Credits: 3
or EXS 454 - Biomechanics (COM) Credits: 2
and EXS 454L - Biomechanics Lab (COM) Credits: 1
or ME 446 - Engineering Mechanics in Biomedical Applications Credits: 3
or ME 448 - Mechanical Behavior of Biomaterials Credits: 3
- EE 464 - Senior Design Project I (COM) Credits: 2
or ME 478 - Mechanical Systems Design I Credits: 3
*see note one below.
- EE 465 - Senior Design Project II (COM) Credits: 3
or ME 479 - Mechanical Systems Design II (COM) Credits: 3
and ME 479L - Mechanical Systems Design II Lab Credits: 1
*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 - Research (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 - 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

Jeremy Chambers, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141

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.

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 - Engineering Properties of Biological Materials Credits: 2
and ABE 343L - Engineering Properties of Biological Materials Lab Credits: 1
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 - Unit Operations of Biological Materials Processing Credits: 3
- ABE 444L - Unit Operations of Biological Materials Processing Lab Credits: 1
- AST 443 - Food Processing and Engineering Fundamentals Credits: 2
and AST 443L - Food Processing and Engineering Fundamentals Lab Credits: 1
or FS 351 - Principles of Food Processing Credits: 2
and FS 351L - Principles of Food Processing Lab Credits: 1
or ME 416 - Renewable Energy Systems Credits: 3
or MICR 450 - Applied Microbiology and Biotechnology Credits: 3
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
and MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1
or MICR 233 - Introductory Microbiology Credits: 3
and MICR 233L - Introductory Microbiology Lab Credits: 1

* 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 - Occupational Safety and Health Management Credits: 3
- MICR 311 - Food Microbiology Credits: 2
- MICR 311L - Food Microbiology Lab Credits: 2
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MNET 231 - Manufacturing Processes I Credits: 2
- MNET 231L - Manufacturing Processes I Lab Credits: 1
- NUTR 426 - Production of Wine Beer Spirits Credits: 2
- NUTR 426L - Production of Wine Beer Spirits Lab Credits: 1
- OM 240 - Decision Making Processes in Management Credits: 3
- OM 425 - Production and Operations Management Credits: 3

Total Required Credits: 18

Bison Studies Minor

Program Coordinator/Contact

Philip Urso, Assistant Professor
Department of Animal Science
Animal Science Complex 218
605-688-6623

Program Information

A minor in Bison Studies prepares students to enter the field of bison production and management by exploring habitat management techniques, animal husbandry, basic veterinary care, and the importance of bison to North American culture.

Course Delivery Format

The program provides hands-on experiences in the classroom, laboratories, and field trips.

Requirements for Bison Studies Minor: 18 Credits

- AS 101 - Introduction to Animal Science Credits: 3
and AS 101L - Introduction to Animal Science Lab Credits: 1
or WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- AS 231 - Introduction to Bison Management Credits: 3
- AS 431 - Advanced Bison Production Credits: 3
- RANG 205 - Introduction to Range Management [SGR #6, HSDC] Credits: 2
- RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1

Select from the following

Select one of the following. Credits: 1

- AS 494 - Internship (COM) Credits: 1-12 (1 credit required)
- AS 498 - Research (COM) Credits: 1-3 (1 credit required)
- NRM 494 - Internship (COM) Credits: 1-12 (1 credit required)
- NRM 496 - Field Experience (COM) Credits: 1-12 (1 credit required)
- NRM 498 - Research (COM) Credits: 1-4 (1 credit required)

Select from the following

Select 4-5 credits from the following list. Credits: 4-5

- AGECE 271 - Farm and Ranch Management Credits: 3
- AS/ RANG 215 - Introduction to Integrated Ranch Management Credits: 3
- AS 494 - Internship (COM) Credits: 1-12 (1-2 credits required)
- AS 498 - Research (COM) Credits: 1-3 (1-2 credits required)
- NRM 494 - Internship (COM) Credits: 1-12 (1-2 credits required)
- NRM 496 - Field Experience (COM) Credits: 1-12 (1-2 credits required)
- NRM 498 - Research (COM) Credits: 1-4 (1-2 credits required)
- RANG 321 - Wildland Ecosystems Credits: 3
- RANG 374 - Habitat Conservation and Management Credits: 3
- RANG 374L - Habitat Conservation and Management Lab Credits: 1
- VET 403 - Animal Diseases and Their Control 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 142C
605-688-5060

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.

Course Delivery Format

The program's courses are offered on campus in lecture, laboratory, and field-based settings.

Academic Requirements

A minimum GPA of 2.0 is required for all courses in the minor.

Requirements for Botany Minor: 18 Credits

- BIOL 103 - Biology Survey II (COM) [SGR #6, HSDC] Credits: 2 and BIOL 103L - Biology Survey II Lab (COM) [SGR #6, HSDC] Credits: 1 or BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3 and BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1

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 - General Botany (COM) [SGR #6, HSDC] Credits: 2
- BOT 201L - General Botany Lab (COM) [SGR #6, HSDC] Credits: 1
- BOT 301 - Plant Systematics (COM) Credits: 2
- BOT 301L - Plant Systematics Lab (COM) Credits: 1
- BOT 303 - Forest Ecology and Management Credits: 2
- BOT 303L - Forest Ecology and Management Lab Credits: 1
- BOT 327 - Plant Physiology Credits: 3
- BOT 327L - Plant Physiology Lab Credits: 1
- BOT 405 - Grasses and Grasslike Plants Credits: 1
- BOT 405L - Grasses and Grasslike Plants Lab Credits: 2
- BOT 415 - Aquatic Plants Credits: 1
- BOT 415L - Aquatic Plants Lab Credits: 2
- BOT/RANG 419 - Plant Ecology (COM) Credits: 2
- BOT/RANG 419L - Plant Ecology Lab (COM) Credits: 1
- 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 - Research (COM) Credits: 1-4

Select from the following:

Additional elective credits may come from the following range courses:

- RANG 210L - Range Plant Identification Lab Credits: 2
- RANG 400 - Judging Teams Credits: 1 (Sec 1.)

Total Required Credits: 18

Chemistry Minor

Program Coordinator/Contact

Brian Logue, Department Head
Melody Jewell, Coordinator of Undergraduate Programs
Department of Chemistry, Biochemistry and Physics
Avera Health and Science Center 247, Box 2202
605-688-5151

Program Information

The Department of Chemistry, Biochemistry and Physics 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.

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.

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.

Requirements for Chemistry Minor: 20 Credits

- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 3XX or CHEM 4XX - Twelve credits of upper division chemistry 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. Credits: 12

Total Required Credits: 20

Commodity Risk Management Minor

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
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.

Course Delivery Format

The program offers courses on campus, with limited online coursework.

Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

Requirements for Commodity Risk Management Minor: 18 Credits

- AGECE 354 - Agricultural Marketing and Prices Credits: 3
- ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Electives

Select nine credits from the following. At least one course must be prefixed AGECE. Credits: 9

- AGECE 430 - Agribusiness Marketing and Prices Credits: 3
- AGECE 454 - Economics of Grain and Livestock Marketing Credits: 3
- AGECE 478 - Agricultural Finance Credits: 3
- AGECE 484 - Trading in Commodity Futures and Options Credits: 3
- DSCI 453 - Risk Management - Personal and Business Credits: 3
- FIN 420 - Student Managed Investment Fund Credits: 3

Total Required Credits: 18

Communication Studies Minor

Program Coordinator/Contact

Rebecca A. Kuehl, Associate Director
Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211
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.

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 101 - Foundations of Communication (COM) [SGR #2, HSDC] Credits: 3
or CMST 215 - Public Speaking (COM) [SGR #2, HSDC] Credits: 3
or CMST 222 - Argumentation and Debate (COM) [SGR #2, HSDC] Credits: 3
- CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] 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 School Director or Associate Director) Credits: 6-9

Total Required Credits: 18

Computer Engineering Minor

Program Coordinator/Contact

Sungyong Jung, Department Head
McComish 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.

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 - Microcontroller Systems Design Credits: 3
- EE 347L - Microcontroller Systems Design Lab Credits: 1

Select from the following

Select 5-6 credits from the following. Credits: 5-6

- CSC 474 - Computer Networks Credits: 3
- CSC 487 - Network Security Credits: 3
- EE 492 - 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

Sungyong Jung, Department Head
McComish 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. Computer science related jobs are among the ten fastest growing careers that show a lot of promise and opportunity for growth.

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.

Academic Requirements

Computer Science students must pass all minor courses with a grade of C or better.

Requirements for Computer Science Minor: 18 Credits

- CSC 150 - Computer Science I (COM) [HSDC] 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

Concrete Materials Science Minor

Program Coordinator/Contact

Tim Hostettler, Program Director
Department of Construction and Concrete Industry Management
Solberg Hall 115B
605-688-6998

Program Information

The Concrete Materials Science Minor provides graduates with a solid background in concrete and related materials technology. The concrete industry is a large part of the growing construction industry. There is strong demand for graduates with knowledge to work in the construction field at many levels including construction management, cost estimator, or contractor. Graduates will learn about the concrete industry - specific safety practices and potential hazards, concrete mix design technology, cost estimating skills, and specific properties of plastic and hardened concrete. Majors that would benefit from the minor include, but are not limited to, Architecture, Construction Management, Mechanical Engineering, Operations Management, and Civil Engineering. Concrete Industry Management majors are not eligible for this minor.

Course Delivery Format

Course content is delivered face-to-face and online with instruction using lecture, discussion, field trips, and hands-on laboratories.

Academic Requirements

Students in the Concrete Industry Management (B.S.) are not eligible for this minor.

Requirements for Concrete Materials Science Minor: 18 Credits

- CIM 101 - Introduction to Concrete Industry Management Credits: 2
- CIM 120 - Introduction to Industrial Safety Credits: 3
- CIM 125 - Plans and Specifications Credits: 2
- CIM 210 - Fundamentals of Concrete: Properties and Testing Credits: 3
- CIM 210L - Fundamentals of Concrete: Properties and Testing Lab Credits: 1
- CIM 440 - Advanced Concrete Materials Credits: 3
- CIM 440L - Advanced Concrete Materials Lab Credits: 1
- CM 232 - Cost Estimating Credits: 3

Total Required Credits: 18

Construction Minor

Program Coordinator/Contact

Albena Yordanova, Senior Lecturer
Department of Construction and Concrete Industry 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.

Course Delivery Format

The program provides coursework on the Brookings campus in classroom, laboratory, and field-based settings. The construction management 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 - Civil Engineering Materials Credits: 2
and CEE 216L - Civil Engineering Materials Lab Credits: 1
- CM 232 - Cost Estimating Credits: 3
- CM 410 - Construction Project Management and Supervision Credits: 3
- CM 443 - Construction Planning and Scheduling Credits: 3

Select from the following

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 - Risk Management and Construction Safety Credits: 3
- CM 452 - Heavy and Highway Estimating Credits: 3
- CM 460 - Sustainable Building Systems Concepts and Analysis Credits: 3
- CM 473 - Construction Law and Contracts Credits: 3

Total Required Credits: 18

Criminal Justice Minor

Program Coordinator/Contact

Katie Derrick, Professional Advisor
School of Psychology, Sociology and Rural Studies
Psychology, Sociology and Rural Studies 110
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.

Course Delivery Format

Coursework for the program is delivered in multiple formats including face-to-face lecture and online courses.

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.

Requirements for Criminal Justice Minor: 18 Credits

- CJUS 201 - Introduction to Criminal Justice (COM) [SGR #3, HSDC] Credits: 3
- SOC 351 - Criminology (COM) Credits: 3 *

Select from the following

Select twelve credits from the following. 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/ SOC 416 - Drugs and Society Credits: 3
- CJUS 431 - Criminal Law (COM) Credits: 3
- CJUS 491 - Independent Study (COM) Credits: 1-3
- CJUS 492 - Topics (COM) Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- SOC 204 - Introduction to Corrections (COM) Credits: 3
- SOC 325 - Domestic and Intimate Violence (COM) Credits: 3 *
- SOC 354 - Victimology (COM) Credits: 3 *
- SOC 455 - Juvenile Delinquency (COM) Credits: 3 *

Total Required Credits: 18

Crop Protection Minor

Program Coordinator/Contact

Karen Sanguinet, Klingbeil Endowed Department Head
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.

Course Delivery Format

The program provides curriculum in lecture, laboratory, and field-based learning environments.

Academic Requirements

The program requires a 2.5 GPA or higher and a grade of C or higher in all coursework for the minor. *Can only be used to meet requirements in one section (i.e. PS 407 cannot be a required and an elective credit).

Requirements for Crop Protection Minor: 18 Credits

- PS 223 - Principles of Plant Pathology Credits: 2
- PS 223L - Principles of Plant Pathology Lab Credits: 1
- PS 405 - Entomology (COM) Credits: 2 ¹
and PS 405L - Entomology Lab (COM) Credits: 1 ¹
or PS 407 - Insect Pest Management Credits: 2 ¹
and PS 407L - Insect Pest Management Lab Credits: 1 ¹
- PS 445 - Weed Science Credits: 2
- PS 445L - Weed Science Lab Credits: 1

Select from the following

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 - Entomology (COM) Credits: 2 ¹
and PS 405L - Entomology Lab (COM) Credits: 1 ¹
or PS 407 - Insect Pest Management Credits: 2 ¹
and PS 407L - Insect Pest Management Lab Credits: 1 ¹
- PS 431 - Insect Ecology and Biological Control Credits: 3
- PS 433 - Field Crop Diseases and Management Credits: 3

Total Required Credits: 18

Dairy Industry Minor

Program Coordinator/Contact

Londa Nwadike, 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.

Course Delivery Format

The program offers instruction through lecture, discussion, laboratory exercises and hands-on practical training.

Academic Requirements

Dairy Production and Dairy Manufacturing majors are not eligible to complete the Dairy Industry Minor.

Requirements for Dairy Industry Minor: 18 Credits

- DS 130 - Introduction to Dairy Science Credits: 2
- DS 130L - Introduction to Dairy Science Lab Credits: 1
- DS 314 - Dairy Farm Evaluation Credits: 2
or DS 496 - Field Experience Credits: 3-12 (3 credits required)

Select from the following

Select from the following. Credits: 12-13

- 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 - Dairy Microbiology Credits: 2
- DS 301L - Dairy Microbiology Lab Credits: 2
- DS 311 - Dairy Cattle Judging Credits: 2
- DS 312 - Dairy Cattle Breeding and Evaluation Credits: 2
- DS 312L - Dairy Cattle Breeding and Evaluation Lab Credits: 2
- DS 314 - Dairy Farm Evaluation Credits: 2
- DS 400 - Dairy Chemistry and Analysis Credits: 3
- DS 400L - Dairy Chemistry and Analysis Lab Credits: 2
- DS 401 - Advanced Dairy Products Judging Credits: 1-2
- DS 413 - Physiology of Lactation Credits: 3
- DS 413L - Physiology of Lactation Lab Credits: 1
- DS 421 - Dairy Plant Management Credits: 3
- DS 421L - Dairy Plant Management Lab Credits: 1
- DS 442 - Dairy Product and Process Development Credits: 3
- DS 460 - Dairy Product Processing I Credits: 4
- DS 460L - Dairy Product Processing I Lab Credits: 1
- DS 461 - Dairy Product Processing II Credits: 4
- DS 461L - Dairy Product Processing II Lab Credits: 1
- DS 480 - Dairy Farm Operations I Credits: 3
- DS 480L - Dairy Farm Operations I Lab Credits: 1
- DS 481 - Dairy Farm Operations II Credits: 3
- DS 481L - Dairy Farm Operations II Lab Credits: 1
- 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

Jim Wood, Program Coordinator
School of Performing Arts
Oscar Larson Performing Arts Center 189N, Box 2830
605-688-5188

Program Information

The dance minor at SDSU was created as a holistic 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. All students no matter their history or training will find opportunities for growth and transformation in the program.

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
and/or DANC 336 - Dance Activities Credits: 1
(2 credits required. Take two semesters.)
- DANC 240 - Multicultural Dance Activities Credits: 1
- DANC 241 - Creative Movement for Children 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

Eun Heui Kim, Department Head
Donna Flint, Assistant 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.

Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

Academic Requirements

A grade of C or better is required for all courses in the minor.

Requirements for Data Science Minor: 18 Credits

- STAT 101 - Introduction to Data Science Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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 - Risk Management - Personal and Business Credits: 3
- ECON 423 - Introduction to Econometrics (COM) Credits: 3
- GEOG 382 - Quantitative Research Methods in Geography Credits: 2
- GEOG 382L - Quantitative Research Methods in Geography Lab Credits: 1

- INFO 101 - Introduction to Informatics [HSDC] 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 - SAS Programming Credits: 3
- STAT 414 - Basic R Programming Credits: 1
- STAT 415 - R Programming Credits: 3
- STAT 435 - Applied Bioinformatics Credits: 3
- STAT 441 - Statistical Methods II Credits: 3
- STAT 445 - Nonparametric Statistics (COM) Credits: 3
- STAT 451 - Predictive Analytics I Credits: 3
- STAT 453 - Applied Bayesian Statistics Credits: 3
- STAT 460 - Time Series Analysis (COM) Credits: 3

Total Required Credits: 18

Design Studies Minor

Program Coordinator/Contact

Pat Crawford, Director
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
605-688-4103

Program Information

A minor in Design Studies allows students to broaden 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.

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

Academic Requirements

Students who are already design majors (Architecture, Graphic Design, Interior Design, Studio Art, and Landscape Architecture) will not be 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."

Requirements for Design Studies Minor: 18 Credits

- DSGN 110 - Creative Thinking Credits: 3
- DSGN 121 - Design I 2D (COM) [SGR #4, HSDC] 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 241 - Construction History [SGR #4, HSDC] Credits: 3
- ART 111 - Drawing I (COM) [SGR #4, HSDC] Credits: 3
- ART 112 - Drawing II (COM) [SGR #4, HSDC] Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design (COM) [SGR #4, HSDC] Credits: 3
- DSGN 253 - Site Analysis and Surrounding Credits: 3
- GDES 101 - Computer Graphics [HSDC] Credits: 3
- GDES 207 - Interactive Design I Credits: 3
- GDES 216 - Typography Credits: 3
- GDES 310 - Branding Strategy and Identity Design 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

Total Required Credits: 18

Digital and Social Media Minor

Program Coordinator/Contact

Rebecca A. Kuehl, Associate Director
Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211
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.

Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

Equipment and Supplies

Students are encouraged to purchase a laptop (Apple Mac preferred) and software for the discipline.

Requirements for Digital and Social Media Minor: 18 Credits

- MCOM 219 - Social Media Strategies Credits: 3
- MCOM 220 - Introduction to Digital Media (COM) Credits: 3
- MCOM 265 - Basic Photography (COM) Credits: 3
or MCOM 311 - News Editing (COM) Credits: 3
- PUBR 411 - Media Analytics Credits: 3

Select from the following

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 (COM) [SGR #3, HSDC] Credits: 3
- MCOM 265 - Basic Photography (COM) Credits: 3
- MCOM 434 - Advanced Multiplatform Storytelling Credits: 3

Total Required Credits: 18

Early Childhood Education Minor

Program Coordinator/Contact

Heidi Sackreiter, Assistant Professor/ECE Coordinator
School of Education, Counseling and Human Development
Pugsley Hall 141
605-688-5039

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.

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: 1-3 (1 credit required)
- 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 - Play and Inquiry Credits: 3
- ECE 360L - Play and Inquiry Lab Credits: 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 100
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, law, business, or related fields.

Course Delivery Format

The program offers courses on campus, with limited online coursework.

Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

Requirements for Economics Minor: 18 Credits

- ECON 201 - Principles of Microeconomics (COM) [SGR #3, HSDC] Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] 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 or ECON 431 to satisfy ECON prefix requirements) Credits: 6
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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

Kasiviswanathan Muthukumarappan, Klingbeil Endowed Department Head and Distinguished Professor
Department of Agricultural and Biosystems Engineering
Raven Precision Agriculture Center 136
605-688-5666

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.

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 - Ag Power and Machines Credits: 3
- ABE 314L - Ag Power and Machines Lab Credits: 1
- 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: 3
- ME 478 - Mechanical Systems Design I Credits: 3 and ME 479 - Mechanical Systems Design II (COM) Credits: 3 and ME 479L - Mechanical Systems Design II Lab Credits: 1

Select from the following

Select six credits from the following list. Credits: 6

- ABE 234 - Digital Tools for Agricultural and Biosystems Engineering Credits: 3
- ABE 350 - Hydraulic Systems Credits: 2
- ABE 350L - Hydraulic and Pneumatic Systems Lab Credits: 1
- CSC 150 - Computer Science I (COM) [HSDC] Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- PRAG 440 - Crop Management with Precision Farming Credits: 2
- PRAG 440L - Crop Management with Precision Farming Lab Credits: 1

Total Required Credits: 18

Engineering Management Minor

Program Coordinator/Contact

Carrie Steinlicht, Senior Lecturer
Department of Construction and Concrete Industry 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.

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 MNET 460 - Engineering Economic Analysis Credits: 3
- GE 101 - Introduction to Engineering and Technical Professions [HSDC] Credits: 1
- GE 385 - Introduction to Systems Engineering and Management Credits: 3
- GE 470 - Project Management Credits: 2
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3 or STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3

Select from the following

Select six credits from the following. Credits: 6

- BLAW 350 - Legal Environment of Business (COM) Credits: 3 or CM 473 - Construction Law and Contracts Credits: 3
- MNET 367 - Production Strategy Credits: 2
- MNET 367L - Production Strategy Lab Credits: 1
- OM 425 - Production and Operations Management Credits: 3
- OM 462 - Quality Management Credits: 3

Total Required Credits: 18

English Minor

Program Coordinator/Contact

Jason McEntee, Director
School 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.

Course Delivery Format

Coursework is offered on campus and online.

Academic Requirements

To count toward the minor, courses must be passed with a minimum grade of "C."

Requirements for English Minor: 18 Credits

- ENGL 151 - Introduction to English Studies Credits: 3
- ENGL 221 - British Literature to 1800 (COM) [SGR #4, HSDC] Credits: 3
or ENGL 222 - British Literature Since 1800 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 241 - American Literature to 1865 (COM) [SGR #4, HSDC] Credits: 3
or ENGL 242 - American Literature Since 1865 (COM) [SGR #4, HSDC] Credits: 3
- ENGL 283 - Introduction to Creative Writing (COM) [SGR #1, HSDC] Credits: 3
or ENGL 284 - Introduction to Criticism (COM) [SGR #1, HSDC] Credits: 3
- ENGL 379 - Technical Communication (COM) Credits: 3
or ENGL 383 - Creative Writing I (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 139
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.

Course Delivery Format

The program offers courses on campus, with limited online coursework.

Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

Requirements for Entrepreneurial Studies Minor: 18 Credits

- ENTR 236 - Fundamentals of Innovation and Creativity Credits: 3
- ENTR 238 - Product Development and Market Discovery Credits: 3
- ENTR 337 - Entrepreneurship Development Credits: 3
- MKTG 370 - Marketing (COM) Credits: 3
- MKTG 474 - Personal Selling (COM) Credits: 3

Select from the following

Select one course from the following. Credits: 3

- ACCT 430 - Income Tax Accounting (COM) Credits: 3
- AGECE 274 - Agribusiness Sales Credits: 3

- BLAW 351 - Business Law (COM) Credits: 3
- CA 230 - Consumer Engagement Credits: 3
- ENTR 338 - Pathways to Launching and Growing a Venture Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3

Total Required Credits: 18

Equine Studies Minor

Program Coordinator/Contact

Carmen Paulson, Lecturer
Department of Animal Science
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.

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 - Introduction to Horse Management Credits: 2
- AS 104L - Introduction to Horse Management Lab Credits: 1
- AS 105 - Horsemanship Credits: 1
or AS 211 - Equine Training Credits: 1
- AS 213 - Equine Health and Diseases Credits: 3
- AS 218 - Survey of Animal Nutrition Credits: 3
or AS 319 - Livestock Feeds and Feeding Credits: 2
and AS 319L - Livestock Feeds and Feeding Lab Credits: 1
- AS 370 - Stable Management Credits: 3
or AS 376 - Performance Horse Management Credits: 3
or AS 476 - Horse Production Credits: 2
and AS 476L - Horse Production Lab Credits: 1
- AS 491 - Independent Study (COM) Credits: 1-3 (1 credit required)
or AS 494 - Internship (COM) Credits: 1-12 (1 credit required)
or AS 498 - Research (COM) Credits: 1-3 (1 credit required)

Select from the following

Select 4 credits from the following (cannot duplicate course credits used above). Credits: 4

- AS 105 - Horsemanship Credits: 1
- AS 211 - Equine Training Credits: 1
- AS 370 - Stable Management Credits: 3
- AS 376 - Performance Horse Management Credits: 3
- AS 389 - Current Issues in Animal Science Credits: 3 (Equine focus section)
- AS 476 - Horse Production Credits: 2
- AS 476L - Horse Production Lab Credits: 1
- AS 491 - Independent Study (COM) Credits: 1-3 (1 credit required)
- AS 494 - Internship (COM) Credits: 1-12 (1 credit required)
- AS 498 - Research (COM) Credits: 1-3 (1 credit required)
- RANG 205 - Introduction to Range Management [SGR #6, HSDC] Credits: 2
- RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1
- RANG 210L - Range Plant Identification Lab Credits: 2

Total Required Credits: 18

Events and Facilities Administration Minor

Program Coordinator/Contact

Xu Li, Associate Professor
School of Health and Human Sciences
Wagner Hall 425, Box 2275A
605-688-4795

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 with 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 give students a deeper understanding of what it takes to plan and promote successful events, with focus on events and facilities administration, facilities management and design, and marketing.

Course Delivery Format

The on-campus program involves lectures, discussion, group work, and applied learning experiences.

Academic Requirements

Students must earn a "C" or above in required and elective courses in the Events and Facilities Administration Minor.

Requirements for Events and Facilities Administration Minor: 18 Credits

- HMG 355 - Events and Facilities Administration Credits: 3
- HMG 455 - Advanced Events and Facilities Administration Credits: 3
- HMG 472 - Hospitality Facilities Management and Design Credits: 3 or RECR 415 - Sport and Recreation Facility Management Credits: 3
- HMG 482 - Hospitality Marketing Credits: 3

Electives

Select from the following list of courses. Credits: 6

- CA 230 - Consumer Engagement Credits: 3
- CA 430 - Consumer Decision Making Credits: 3
- FSRM 361 - Aesthetics Credits: 3
- HMG 282 - Customer Service Credits: 3
- HMG 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

Jason McEntee, Professor and Director
School of English and Interdisciplinary Studies
Pugsley Center 301, Box 2218
605-688-5191

Program Information

As an interdisciplinary program across the Schools of Design and English and Interdisciplinary Studies, 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.

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

- ENGL 472 - Film Criticism (COM) Credits: 3
- MCOM 160 - Introduction to Film [SGR #4, HSDC] Credits: 3
- MCOM 366 - Film Narrative Credits: 3

Select from the following

Select nine credits from the following list. Credits: 9

- ART 492 - Topics (COM) Credits: 1-9 (3 credits required)
- ENGL 268 - Literature (COM) [SGR #4, HSDC] Credits: 3 (Next Generation Storytelling or Literature and Film on Vietnam)
- ENGL 473 - Creative Writing: Screenwriting (COM) Credits: 3
- ENGL 492 - Topics (COM) Credits: 1-5 (if film-oriented course)
- 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 - Video Production (COM) Credits: 3
- SPAN 492 - Topics (COM) Credits: 1-3 (If film-oriented course) (3 credits required)

Total Required Credits: 18

Financial Counseling and Planning Minor

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
605-688-4141

Program Information

The program prepares students to apply for the Accredited Financial Counselor (AFC) certification, which will prepare you to help individuals and families build a strong financial foundation to help them achieve financial well-being.

Certification and Licensure

To become an Accredited Financial Counselor (AFC), candidates must complete the education, exam, experience, and ethics requirements. For additional information on AFC® certification, visit the AFCPE website.

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 and Planning Minor: 21 Credits

- FIN 280 - Personal Finance (COM) [HSDC] Credits: 3 ^a

Select from the following

Select 18 credits from the following. Credits: 18

- FIN 375 - Financial Counseling and Debt Management Credits: 3 ^a
- FIN 431 - Family Investment Planning Credits: 3
- FIN 432 - Family Insurance Planning Credits: 3
- FIN 433 - Family Estate Planning Credits: 3
- FIN 434 - Family Retirement Planning Credits: 3
- FIN 435 - Family Tax Planning Credits: 3
- FIN 439 - Family Financial Planning Capstone Credits: 3

Total Required Credits: 21

Note

^a Completion of these two courses meets the educational requirement for the AFCPE® certification.

Food Safety Minor

Program Coordinator/Contact

Londa Nwadike, 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.

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 - Dairy Microbiology Credits: 2
and DS 301L - Dairy Microbiology Lab Credits: 2
- FS 251 - Food Safety and Quality Management Systems Credits: 3
- MICR 311 - Food Microbiology Credits: 2
- MICR 311L - Food Microbiology Lab Credits: 2

Select from the following

Select 7-8 credits from the following. Credits: 7-8

- AS 241 - Introduction to Meat Science Credits: 2
- AS 241L - Introduction to Meat Science Lab Credits: 1
- AS 445 - Value-Added Meat Products Credits: 2
- AS 445L - Value-Added Meat Products Lab Credits: 1
- AST 443 - Food Processing and Engineering Fundamentals Credits: 2
- AST 443L - Food Processing and Engineering Fundamentals Lab Credits: 1
- DS 460 - Dairy Product Processing I Credits: 4
- DS 460L - Dairy Product Processing I Lab Credits: 1
- FS 351 - Principles of Food Processing Credits: 2
- FS 351L - Principles of Food Processing Lab Credits: 1
- FS 451 - New Food Product Development Credits: 3
- FS 451L - New Food Product Development Lab Credits: 1
- HMG 251 - Foodservice Sanitation Credits: 1
- HSC 445 - Epidemiology Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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
Lincoln Hall 319, Box 2212
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 individuals from various backgrounds. 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.

Course Delivery Format

The French Studies program offers flexibility and variety in the delivery of its courses. Some, including upper-division courses, are taught face-to-face.

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 minor must be passed with a grade of "C" or better.

Requirements for French Studies Minor: 18 Credits

- FREN 102 - Introductory French II (COM) [SGR #4, HSDC] Credits: 4

- FREN 201 - Intermediate French I (COM) [SGR #4, HSDC] Credits: 3
- FREN 202 - Intermediate French II (COM) [SGR #4, HSDC] 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 Weecota 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.

Course Delivery Format

The Geographic Information Sciences program includes lecture, discussion, laboratory research, fieldwork, and travel, with limited online coursework.

Academic Requirements

Students must earn at least a "C" in each course used to meet the minor requirements.

Requirements for Geographic Information Sciences Minor: 18 Credits

Select from the following

Select 12 credits from the following. Credits: 12

- GEOG 280 - Introduction to Remote Sensing Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- GEOG 473 - GIS: Data Creation and Integration (COM) Credits: 2
- GEOG 473L - GIS: Data Creation and Integration Lab (COM) Credits: 1
- GEOG 474 - GIS: Vector and Raster Modeling Credits: 2
- GEOG 474L - GIS: Vector and Raster Modeling Lab Credits: 1
- GEOG 475 - GIS Applications Credits: 2
- GEOG 475L - GIS Applications Lab Credits: 1
- GEOG 483 - UAS Remote Sensing Credits: 2
- GEOG 483L - UAS Remote Sensing Lab Credits: 1

Electives

Select six credits from 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 Uncrewed Aircraft Systems Credits: 3
- GEOG 365 - Land Use and Planning Credits: 3
- GEOG 383 - Cartography Credits: 2
- GEOG 383L - Cartography Lab Credits: 1
- GEOG 384 - Advanced Cartography Credits: 2
- GEOG 384L - Advanced Cartography Studio Credits: 1
- GEOG 415 - Environmental Geography and Sustainability Credits: 3
- GEOG 471 - Programming for Geospatial Data Analysis Credits: 3
- GEOG 476 - Web GIS Credits: 2
- GEOG 476L - Web GIS Lab Credits: 1
- GEOG 477 - Spatial Databases Credits: 2
- GEOG 477L - Spatial Databases Lab Credits: 1
- GEOG 480 - Satellite Remote Sensing Credits: 2
- GEOG 480L - Satellite Remote Sensing Lab Credits: 1

- GEOG 485 - Advanced Satellite Remote Sensing Credits: 2
- GEOG 485L - Advanced Satellite Remote Sensing Lab Credits: 1
- LA 342 - City Planning Credits: 3
- PLAN 471 - 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 complement 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.

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.

Academic Requirements

Students must earn at least a "C" in each course used to meet the minor requirements.

Requirements for Geography Minor: 20 Credits

- GEOG 111 - Sustainable Society (COM) [SGR #3, HSDC] Credits: 3 or GEOG 200 - Introduction to Human Geography (COM) [SGR #3, HSDC] Credits: 3
- GEOG 131 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC] Credits: 3
- GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC] Credits: 1
- GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC] Credits: 3
- GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC] Credits: 1
- GEOG 210 - World Regional Geography (COM) [SGR #3, HSDC] Credits: 3
- Upper-division courses or substitutions approved by the Department Credits: 6

Total Required Credits: 20

Geospatial Intelligence Minor

Program Coordinator/Contact

Kimberely Johnson Maier, Assistant Professor
Department of Geography and Geospatial Sciences
109 Wecota Hall
605-688-4511

Program Information

Geospatial Intelligence (GEOINT) is a broad field that encompasses the intersection of geospatial data with social, political, environmental, and numerous other factors. Geospatial Intelligence refers to the use of geospatial technologies to extract information for decision advantage in humanitarian response, strategic defense, security or investigative analysis. The Geospatial Intelligence Minor focuses on geospatial techniques (GIS, remote sensing, data management, etc.) and analytical courses from political science, history, geography, etc. to provide students with foundational knowledge for success in the GEOINT community. This minor will benefit students with an interest in a credential for working in national security, emergency management, or public safety careers.

Course Delivery Format

Coursework for the program is delivered in multiple formats including face-to-face lecture and online courses.

Requirements for Geospatial Intelligence Minor: 18 Credits

- GEOG 280 - Introduction to Remote Sensing Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2

- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- GEOG 447 - Geography of the Future (COM) Credits: 3

Technical Electives

Select three credits from the following list. Credits: 3

- GEOG 383 - Cartography Credits: 2
- GEOG 383L - Cartography Lab Credits: 1
- GEOG 471 - Programming for Geospatial Data Analysis Credits: 3
- GEOG 473 - GIS: Data Creation and Integration (COM) Credits: 2
- GEOG 473L - GIS: Data Creation and Integration Lab (COM) Credits: 1
- GEOG 474 - GIS: Vector and Raster Modeling Credits: 2
- GEOG 474L - GIS: Vector and Raster Modeling Lab Credits: 1
- GEOG 475 - GIS Applications Credits: 2
- GEOG 475L - GIS Applications Lab Credits: 1
- GEOG 476 - Web GIS Credits: 2
- GEOG 476L - Web GIS Lab Credits: 1
- GEOG 477 - Spatial Databases Credits: 2
- GEOG 477L - Spatial Databases Lab Credits: 1
- GEOG 480 - Satellite Remote Sensing Credits: 2
- GEOG 480L - Satellite Remote Sensing Lab Credits: 1
- GEOG 483 - UAS Remote Sensing Credits: 2
- GEOG 483L - UAS Remote Sensing Lab Credits: 1

Analytical Electives

Select six credits from the following list. Credits: 6

- GEOG 210 - World Regional Geography (COM) [SGR #3, HSDC] Credits: 3
- GEOG 317 - Geography of Africa Credits: 3
- GEOG 320 - Regional Geography: (COM) Credits: 3
- GEOG 425 - Population Geography Credits: 3
- GEOG 430 - Geography of Europe Credits: 3
- HIST 419 - World Environmental History (COM) Credits: 3
- POLS 350 - International Relations (COM) Credits: 3
- POLS 447 - Latin American Politics (COM) Credits: 3

Total Required Credits: 18

German Minor

Program Coordinator/Contact

Eckhard Rölz, Professor of German
School of American and Global Studies
Lincoln Hall 231, Box 2212
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 individuals from various backgrounds. 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.

Course Delivery Format

The German program offers flexibility and variety in the delivery of its courses. Some, including upper-division courses, are taught face-to-face. Others, including courses offered as part of the German cooperative program with USD are fully online, hybrid, hyflex, or delivered through Zoom.

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.

Requirements for German Minor: 18 Credits

- GER 102 - Introductory German II (COM) [SGR #4, HSDC] Credits: 4
 - GER 201 - Intermediate German I (COM) [SGR #4, HSDC] Credits: 3
 - GER 202 - Intermediate German II (COM) [SGR #4, HSDC] 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, Associate 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.

Course Delivery Format

Program coursework is completed on campus and online.

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.

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 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- BIOL 439 - 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

- SOC 490 - Seminar (COM) Credits: 1-3
- GERO 405 - Issues in Aging Credits: 3
- GERO 410 - Families and Aging Credits: 3
- GERO 415 - Intergenerational Issues Credits: 1-3

General Electives

- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- HDFS 247 - Human Development III: Adulthood Credits: 3
- GERO 486 - Service Learning Credits: 1-3
- GERO 491 - Independent Study (COM) Credits: 1-3
- GERO 492 - Topics (COM) Credits: 1-3

Total Required Credits: 18

Global Studies Minor

Program Coordinator/Contact

Molly Enz, Distinguished Professor of French and Global Studies
School of American and Global Studies
Lincoln Hall 311, Box 2212
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 cultural, environmental, political, religious, and social interactions that shape our modern world and to help them find solutions to the complex global challenges of the 21st century.

Course Delivery Format

Most courses for the Global Studies program are taught face-to-face on campus. Several courses required for the major may be offered online once a year.

Requirements for Global Studies Minor: 18 Credits

- CMST 470 - Intercultural Communication (COM) Credits: 3
- ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3
- GEOG 210 - World Regional Geography (COM) [SGR #3, HSDC] Credits: 3
- GLST 201 - Introduction to Global Studies [SGR #3, HSDC] Credits: 3
- HIST 112 - World Civilizations II (COM) [SGR #4, HSDC] Credits: 3
- REL 250 - World Religions (COM) [SGR #4, HSDC] Credits: 3
- The study of a second language is strongly recommended.

Total Required Credits: 18

Graphic Design Minor

Program Coordinator/Contact

Marisa TenBrink, Assistant Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

Academic Requirements

Students may not use courses in the Graphic Design minor to complete another minor offered within the School of Design.

Requirements for Graphic Design Minor: 18 Credits

- GDES 101 - Computer Graphics [HSDC] 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

Select from the following

Select at least 6 credits from the following. Credits: 6

- ART 111 - Drawing I (COM) [SGR #4, HSDC] Credits: 3
- DSGN 121 - Design I 2D (COM) [SGR #4, HSDC] 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

Rebecca A. Kuehl, Associate Director
Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211
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.

Course Delivery Format

Available on the main campus but also available online.

Requirements for Health Communication Minor: 18 Credits

- CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] Credits: 3
- CMST 440 - Health Communication (COM) Credits: 3
- CMST 441 - Current Issues in Health Communication Credits: 3

Select from the following

Select nine credits from the list. Credits: 9

- HLTH 220 - Social Determinants of Health Credits: 3
- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- HSC 212 - Contemporary Health Problems Credits: 2
- HSC/ WMST 260 - Women's Health Issues Credits: 3
- HSC 402 - Rural Healthcare Matters Credits: 3
- NUTR 221 - Survey of Nutrition Credits: 3
or NUTR 315 - Human Nutrition (COM) Credits: 3
- SPAN 308 - Spanish for the Health Professions Credits: 3

Total Required Credits: 18

Health Education Minor

Program Coordinator/Contact

Jessica Meendering, Director
School of Health and Human Sciences
Wagner Hall 425, Box 2275A
605-688-5161

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.

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.

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.

Requirements for Health Education Minor: 18-20 Credits

- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- HLTH 100 - Wellness for Life (COM) Credits: 1
- HLTH 100L - Wellness for Life Lab (COM) Credits: 1
- HLTH 220 - Social Determinants of Health Credits: 3
- HLTH 420 - K-12 Methods of Health Instruction (COM) Credits: 2
or HLTH 475 - Principles of Community Health Education Credits: 3
- HLTH 479 - Health Promotion Programming and Evaluation Credits: 2
- NUTR 221 - Survey of Nutrition Credits: 3
or NUTR 315 - Human Nutrition (COM) Credits: 3

Select from the following

Select from the following electives to complete credit requirements.

- HDFS 250 - Development of Human Sexuality Credits: 3
- HLTH 250 - Pre-Professional First Aid and CPR (COM) Credits: 2
- HLTH 364 - Emergency Medical Technician (COM) Credits: 3
and HLTH 364L - Emergency Medical Technician Lab (COM) Credits: 1

Total Required Credits: 18-20

Health Science Minor

Program Coordinator/Contact

Heidi Mennenga, Associate Dean for Academic Programs
Department of Undergraduate Nursing
Wagner Hall 255
605-688-6924 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.

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, HSDC] Credits: 3
- HSC 212 - Contemporary Health Problems Credits: 2
- HSC 443 - Public Health Science Credits: 3
or NURS 444 - Population-Centered Care Credits: 2 (Nursing majors only)
- HSC 445 - Epidemiology Credits: 3
- NURS 201 - Medical Terminology Credits: 1

Select from the following

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 250 - Pre-Professional First Aid and CPR (COM) Credits: 2
or HLTH 364 - Emergency Medical Technician (COM) Credits: 3
- HLTH 350 - Health Promotion Professional Development Credits: 3
- HLTH 420 - K-12 Methods of Health Instruction (COM) Credits: 2
- HSC 120 - Community Health Credits: 2
- HSC 200 - Integrative Holistic Healthcare Credits: 3
- HSC 230 - Stress Management for Life Credits: 3
- HSC/ WMST 260 - Women's Health Issues Credits: 3
- HSC 302 - Wellness and the Family Credits: 2
- HSC 364 - Next Generation Babies: Ethics and Emerging Technologies of Human Reproduction Credits: 3
- HSC 402 - Rural Healthcare Matters Credits: 3
- HSC 433 - Occupational Health Credits: 3
- PSYC 414 - Drugs and Behavior (COM) Credits: 3
- SOC 250 - Courtship and Marriage (COM) [SGR #3, HSDC] Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Total Required Credits: 18

Heavy-Highway Construction Minor

Program Coordinator/Contact

Julian Kang, Department Head
Department of Construction and Concrete Industry 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.

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 - Construction Planning and Scheduling Credits: 3
- CM 452 - Heavy and Highway Estimating Credits: 3

Select from the following

Select from the following. Credits: 6

- CEE 363 - Highway and Traffic Engineering Credits: 3
- CEE 411 - Asphalt Materials and Mix Design Credits: 2
- CEE 411L - Asphalt Materials and Mix Design Lab Credits: 1
- CEE 456 - Concrete Theory and Design (COM) Credits: 3
- CM 400 - Risk Management and Construction Safety Credits: 3
- CM 410 - Construction Project Management and Supervision Credits: 3
- CM 473 - Construction Law and Contracts Credits: 3
- CM 496 - Field Experience (COM) Credits: 1-3 (3 credits required)

Total Required Credits: 18

History Minor

Program Coordinator/Contact

Dale Potts, Associate Professor of History
School of American and Global Studies
Lincoln Hall 215, Box 2212
605-688-6345

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.

Course Delivery Format

The program offers both online and on-campus courses.

Academic Requirements

No grade below a "C" in history courses may be counted toward the minor.

Requirements for History Minor: 18 Credits

- HIST 111 - World Civilizations I (COM) [SGR #4, HSDC] Credits: 3
or HIST 121 - Western Civilization I (COM) [SGR #4, HSDC] Credits: 3
- HIST 112 - World Civilizations II (COM) [SGR #4, HSDC] Credits: 3
or HIST 122 - Western Civilization II (COM) [SGR #4, HSDC] Credits: 3
- HIST 151 - United States History I (COM) [SGR #3, HSDC] [CIV] Credits: 3
- HIST 152 - United States History II (COM) [SGR #3, HSDC] [CIV] Credits: 3
- 300-400 level History Elective Credits: 6

Total Required Credits: 18

History of Art and Design Minor

Program Coordinator/Contact

Leda Cempellin, Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

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, HSDC] Credits: 3
- ARTH 211 - History of World Art I (COM) [SGR #4, HSDC] Credits: 3
- ARTH 212 - History of World Art II (COM) [SGR #4, HSDC] 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

Karen Sanguinet, Klingbeil Endowed Department Head
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.

Course Delivery Format

Students learn through hands-on and face-to-face learning in lecture, laboratory, and field-based experiences.

Academic Requirements

The minor requires a 2.0 GPA or better in the program's courses.

Requirements for Horticulture Minor: 18 Credits

- HO 111 - Introduction to Horticulture Credits: 2
- HO 111L - Introduction to Horticulture Lab Credits: 1
- HO 255 - Woody Plants Credits: 3
and HO 255L - Woody Plants Lab Credits: 1
or HO 311 - Herbaceous Plants Credits: 2
and HO 311L - Herbaceous Plants Lab Credits: 1

Electives

Select from the following. Credits: 11-12

- HO/PS 105 - Insects and Society [HSDC] Credits: 3
- HO 210 - Turf and Weed Management in Horticulture Credits: 2
- HO 210L - Turf and Weed Management in Horticulture Lab Credits: 1
- HO 255 - Woody Plants Credits: 3
- HO 255L - Woody Plants Lab Credits: 1
- HO 311 - Herbaceous Plants Credits: 2
- HO 311L - Herbaceous Plants Lab Credits: 1
- HO/PS 329 - Horticultural Pests Credits: 3
- HO 339 - Arboriculture and Urban Forestry Credits: 3
- HO 411 - Fruit Crop Systems Credits: 1-6 (1-3 credits required)
or HO 444 - Vegetable Crop Systems Credits: 1-6 (1-3 credits required)
- HO 413 - Greenhouse and High Tunnel Management Credits: 2
- HO 413L - Greenhouse and High Tunnel Management Lab Credits: 1
- HO 414 - Plant Propagation Credits: 2

- HO 414L - Plant Propagation Lab Credits: 1
- HO 416 - Landscape Nursery Management Credits: 3
- HO/ PS 434 - Local Food Production Credits: 2

Total Required Credits: 18

Human Development and Family Science Minor

Program Coordinator/Contact

Erin S. Lavender-Stott, Associate Professor
School of Education, Counseling and Human Development
Wenona Hall 202
605-688-5385

Program Information

The minor in Human Development and Family Science offers students a collection of courses examining the fundamentals of human development through courses exploring family dynamics and relationships. Students pursuing the Human Development and Family Science minor 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 Centers, Youth Organization Worker, Program Director for Youth, Family or Senior Citizen Center.

Academic Requirements

Students must earn at least a C in all courses for the minor.

Requirements for Human Development and Family Science Minor: 18 Credits

Any HDFS courses listed below may be used to complete the minor.

- HDFS 141 - Individual and the Family [SGR #3, HSDC] Credits: 3
- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] 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 255 - Program Design, Implementation and Evaluation Credits: 3
- HDFS 327 - Research and Evaluation Methods Credits: 3
- HDFS 341 - Family Theories Credits: 3
- HDFS 410 - Parenting Credits: 3
- HDFS 425 - Family Resiliency Credits: 3
- HDFS 435 - Family Policy Credits: 3

Total Required Credits: 18

Human Resources Minor

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
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.

Course Delivery Format

The program offers courses on campus and online.

Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

Requirements for Human Resources Minor: 18 Credits

- BLAW/ ECON 467 - 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 - Leadership and Organizations Credits: 3
or LDR 435 - Organizational Leadership and Team Development Credits: 3

Total Required Credits: 18

Informatics Minor

Program Coordinator/Contact

Sungyong Jung, Department Head
McComish 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.

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 [HSDC] Credits: 3
- INFO/ PHIL 102 - Data Ethics (COM) [SGR #3, HSDC] Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] 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 - Molecular and Microbial Genetics Credits: 4
- STAT 435 - Applied Bioinformatics Credits: 3

In the Geographic Sciences:

- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- GEOG 383 - Cartography Credits: 2
- GEOG 383L - Cartography Lab Credits: 1
- GEOG 473 - GIS: Data Creation and Integration (COM) Credits: 2
- GEOG 473L - GIS: Data Creation and Integration Lab (COM) Credits: 1
- GEOG 483 - UAS Remote Sensing Credits: 2
- GEOG 483L - UAS Remote Sensing Lab Credits: 1

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 - Population Studies Credits: 3
- SOC 494 - Internship (COM) Credits: 1-12 (3 credits required)
- STAT 410 - SAS Programming Credits: 3

Total Required Credits: 18

Journalism Minor

Program Coordinator/Contact

Rebecca A. Kuehl, Associate Director
Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211
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.

Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

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.

Requirements for Journalism Minor: 18 Credits

- MCOM 210 - Basic Media Writing (COM) Credits: 3
- MCOM 220 - Introduction to Digital Media (COM) Credits: 3
or MCOM 266 - Photojournalism (COM) Credits: 3
- MCOM 265 - Basic Photography (COM) Credits: 3
- MCOM 311 - News Editing (COM) Credits: 3
- MCOM 317 - Multimedia Reporting (COM) Credits: 3
- MCOM 416 - Mass Media in Society Credits: 3
or MCOM 430 - Media Law (COM) Credits: 3

Total Required Credits: 18

Land Valuation and Rural Real Estate Minor

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
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.

Course Delivery Format

The program offers courses on campus, with limited online coursework.

Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

Requirements for Land Valuation and Rural Real Estate Minor: 19 Credits

- AGECE/BLAW 352 - Agricultural Law Credits: 3
or AGECE/BLAW 462 - Environmental Law Credits: 3
or BLAW 351 - Business Law (COM) Credits: 3
- AGECE 473 - Rural Real Estate Appraisal Credits: 2
- AGECE 473L - Rural Real Estate Appraisal Lab Credits: 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

- AGECE 271 - Farm and Ranch Management Credits: 3
- AGECE 471 - Advanced Farm and Ranch Management Credits: 3

Land Use Planning

- GEOG 365 - Land Use and Planning Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1

Rural Construction

- CM 232 - Cost Estimating Credits: 3
- CM 485 - Site Development and Feasibility Analysis 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 and Management of Nonprofit Organizations Minor

Program Coordinator/Contact

Kimberly Gustafson, Lecturer
School of Health and Human 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.

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 a 120-hour internship with a nonprofit organization, volunteering a minimum of 20 hours, passing a credentialing exam, and attending a national nonprofit conference.

Requirements for Leadership and Management of Nonprofit Organizations Minor: 18 Credits

- LDR 310 - Leadership in Context (COM) Credits: 3
- 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

Electives

Students may choose no more than one course per focus area for a total of 6 elective credits. Credits: 6

Focus Area 1: Understanding Individuals and Groups

- GLST 280 - Developing Intercultural Competence Credits: 3
- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- HDFS 255 - Program Design, Implementation and Evaluation Credits: 3
- HON 378 - Honors Design Challenge Credits: 3
- SOC 271 - Social Work Skills and Methods I Credits: 3
- SOC 282 - Youth and Community Credits: 3
- SOC 382 - The Family (COM) Credits: 3

Focus Area 2: Business/Government

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- POLS 210 - State and Local Government (COM) [SGR #3, HSDC] [CIV] Credits: 3
- POLS 320 - Public Administration (COM) Credits: 3
- POLS 434 - Interest Groups and Lobbying (COM) Credits: 3

Focus Area 3: Marketing/Advertising

- ADV 314 - Digital Promotions Credits: 3

- ADV 370 - Advertising Principles (COM) Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- PUBR 243 - Public Relations Principles (COM) Credits: 3

Focus Area 4: Human Resource Management

- HRM 460 - Human Resource Management (COM) Credits: 3
- LDR 435 - Organizational Leadership and Team Development 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 Human Sciences
Wagner Hall 409, Box 2275A
605-688-5161

Program Information

The undergraduate leadership minor helps students explore and practice different approaches to leadership, preparing them for real-world challenges both on campus and beyond. This interdisciplinary program connects leadership development to students' personal goals and career plans, helping them grow into confident leaders ready to make an impact in their profession, community, and the wider world. By earning this minor, students will gain valuable skills like communication, teamwork, and problem-solving that will set them apart as they transition from college to career and beyond.

Course Delivery Format

The on-campus program involves lectures, discussion, group work, and applied learning experiences.

Requirements for Leadership Minor: 18-19 Credits

- LDR 210 - Foundations of Leadership Credits: 3
or MSL 102 - Introduction to the Profession of Arms (COM) Credits: 1
and MSL 201 - Leadership and Decision Making (COM) Credits: 2
- LDR 310 - Leadership in Context (COM) Credits: 3
- LMNO 305 - Volunteer Management Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3

Electives

Students may choose no more than one course per focus area for a total of 6-7 elective credits. Credits: 6-7

Focus Area 1: Communication

- CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2, HSDC] Credits: 3
- CMST 222 - Argumentation and Debate (COM) [SGR #2, HSDC] Credits: 3
- CMST 311 - Business and Professional Communication (COM) Credits: 3
- CMST 410 - Organizational Communication (COM) Credits: 3
- CMST 434 - Small Group Communication (COM) Credits: 3
- CMST 470 - Intercultural Communication (COM) Credits: 3
- ENGL 379 - Technical Communication (COM) Credits: 3

Focus Area 2: Ethics

- BIOL/ PHIL 383 - Bioethics (COM) Credits: 4
- GLST/ PHIL 480 - Ethics of Globalization Credits: 3
- MSL 401 - The Army Officer (COM) Credits: 3
and MSL 401L - The Army Officer Lab (COM) Credits: 1
- PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] Credits: 3
- PHIL 320 - Professional Ethics (COM) Credits: 3
- REL/ PHIL 454 - Environmental Ethics (COM) Credits: 3

Focus Area 3: Strategic Leadership and Decision Making

- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- HON 378 - Honors Design Challenge Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT 464 - Organizational Behavior (COM) Credits: 3
- OM 240 - Decision Making Processes in Management Credits: 3

Total Required Credits: 18-19

Legal Studies Minor

Program Coordinator/Contact

Lisa Hager, Associate Professor of Political Science
School of American and Global Studies
Lincoln Hall 325, Box 2212
605-688-5343

Program Information

The purpose of the Legal Studies minor is to provide students with the foundational skills to succeed on the LSAT and in law school. The curriculum is guided by 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.

Course Delivery Format

The program offers courses on campus.

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 and writing ability. Students are encouraged to contact the Legal Studies Program Leader for more information on the LSAT and law schools of interest early in their academic career.

Academic Requirements

No grade below a "C" in any course may be used to fulfill requirements for the Legal Studies Minor.

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, HSDC] Credits: 3
or ECON 202 - Principles of Macroeconomics (COM) [SGR #3, HSDC] Credits: 3
- PHIL 200 - Introduction to Logic (COM) [SGR #4, HSDC] Credits: 3
- PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] 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, HSDC] Credits: 3
- POLS 337 - Constitutional Law: Government Powers Credits: 3
or POLS 338 - Constitutional Law: Civil Rights and Liberties Credits: 3

Electives

Select from the following. Credits: 3

- AGECE 462 - Environmental Law Credits: 3
- AGECE 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, HSDC] Credits: 3
- CJUS 431 - Criminal Law (COM) Credits: 3
- CM 473 - Construction Law and Contracts Credits: 3
- CMST 422 - Persuasion (COM) Credits: 3
- ECON 467 - Labor Law and Economics Credits: 3
- HLTH 451 - Public Health Law Credits: 3
- MCOM 430 - Media Law (COM) Credits: 3
- POLS 429 - Courts and Judicial Politics (COM) Credits: 3
- SOC 150 - Social Problems (COM) [SGR #3, HSDC] Credits: 3
- SOC 240 - The Sociology of Rural America (COM) [SGR #3, HSDC] Credits: 3

Total Required Credits: 18

Management Minor

Program Coordinator/Contact

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
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.

Course Delivery Format

The program offers courses on campus, with limited online coursework.

Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.

Requirements for Management Minor: 18 Credits

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3

Select from the following

Select twelve credits from the following list. Students majoring in Accounting, Agricultural Business, Business Economics, Consumer Behavior, 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/ BADM 457 - Business Ethics (COM) Credits: 3 *
- CSC/ MGMT 325 - Management Information Systems (COM) Credits: 3
- DSCI/ ECON 453 - Risk Management - Personal and Business Credits: 3 *
- FIN 310 - Business Finance (COM) Credits: 3
- HRM 460 - Human Resource Management (COM) Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3 *
- MGMT 464 - Organizational Behavior (COM) Credits: 3 *
- OM 363 - Introduction to Supply Chain Management Credits: 3 *
- OM 415 - Logistics and Transportation Management 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.

Course Delivery Format

The program offers courses on campus, with limited online coursework.

Academic Requirements

A minimum GPA of 2.0 is required in the minor.

Requirements for Marketing Minor: 18 Credits

- ADV 370 - Advertising Principles (COM) Credits: 3
- ADV 472 - Research and Planning (COM) Credits: 3
or MKTG 476 - Marketing Research (COM) Credits: 3
or PUBR 472 - Research and Planning (COM) Credits: 3

- MKTG 370 - Marketing (COM) Credits: 3

Select from the following

Select 9 credits from the following. Credits: 9

- ADV 314 - Digital Promotions Credits: 3
- ADV 476 - Global and Multicultural Advertising Credits: 3
- CA 230 - Consumer Engagement Credits: 3
- FSRM 462 - Retail Management Credits: 3
- HMGH 482 - Hospitality Marketing Credits: 3
- MGMT 334 - Small Business Management (COM) Credits: 3
- MKTG 474 - Personal Selling (COM) Credits: 3
- MKTG 475 - Consumer Behavior (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

Eun Heui Kim, Department Head
Donna Flint, Assistant 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 available lead to many exciting and challenging career options.

Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

Academic Requirements

- STAT 281 may not be used for the Mathematics Minor.
- A grade of "C" or better is required for all courses in the minor.

Requirements for Mathematics Minor: 18 Credits

- MATH 125 - Calculus II (COM) [SGR #5, HSDC] Credits: 4
- MATH 225 - Calculus III (COM) [SGR #5, HSDC] Credits: 4
or MATH 355 - Methods of Teaching Mathematics Credits: 4
- MATH 250 - Introduction to Linear Algebra and Proof Credits: 3
or MATH 316 - Discrete Mathematics (COM) Credits: 3
or MATH 450 - History of Mathematics (COM) Credits: 3
or MATH 471 - Numerical Analysis I (COM) Credits: 3
- MATH/STAT Electives ** 200 level or above (excluding STAT 281) Credits: 7

** Students in the education program choose from MATH 261 - Geometry for Teachers Credits: 3, MATH 371 - Technology for STEM Educators Credits: 2, MATH 433 - HS Math: Advanced Perspectives Credits: 3, or MATH 434 - Assessment in STEM Education Credits: 1

Total Required Credits: 18

Meat Science Minor

Program Coordinator/Contact

Judson "Kyle" Grubbs, Associate Professor
Department of Animal Science
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.

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 - Introduction to Meat Science Credits: 2
- AS 241L - Introduction to Meat Science Lab Credits: 1
- AS 441 - Advanced Meat Science Credits: 3
or AS 450 - Meat Product Safety and HACCP Credits: 3
- AS 445 - Value-Added Meat Products Credits: 2
- AS 445L - Value-Added Meat Products Lab Credits: 1
- AS 491 - Independent Study (COM) Credits: 1-3 (1-3 credits required)
or AS 494 - Internship (COM) Credits: 1-12 (1-3 credits required)
or AS 498 - Research (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 - Livestock Evaluation and Marketing Credits: 2
- AS 285L - Livestock Evaluation and Marketing Lab Credits: 1
- AS 400 - Judging Team Credits: 1-2
- AS 441 - Advanced Meat Science Credits: 3
- AS 450 - Meat Product Safety and HACCP Credits: 3
- AST 443 - Food Processing and Engineering Fundamentals Credits: 2
- AST 443L - Food Processing and Engineering Fundamentals Lab Credits: 1
- FS 251 - Food Safety and Quality Management Systems Credits: 3
- FS 341 - Applied Food Science Credits: 3
- FS 341L - Applied Food Science Lab Credits: 1
- FS 351 - Principles of Food Processing Credits: 2
- FS 351L - Principles of Food Processing Lab Credits: 1
- FS 451 - New Food Product Development Credits: 3
- FS 451L - New Food Product Development Lab Credits: 1
- HMG 251 - Foodservice Sanitation Credits: 1
- MICR 311 - Food Microbiology Credits: 2
- MICR 311L - Food Microbiology Lab Credits: 2

Total Required Credits: 18

Mechatronics Technology Minor

Program Coordinator/Contact

Byron Garry, Associate Professor
Department of Construction and Concrete Industry 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.

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 - Fluid Power Technology Credits: 2
and AST 412L - Fluid Power Technology Lab Credits: 1
or ET 232 - Digital Electronics and Microprocessors Credits: 2
and ET 232L - Digital Electronics and Microprocessors Lab Credits: 1
- 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 - Introduction to Electronic Systems Credits: 3

- ET 210L - Introduction to Electronic Systems Lab Credits: 1
- ET 240 - Techniques of Servicing Credits: 3
or PRAG 304 - Electrical Diagnostics for Farm Machinery Credits: 2
and PRAG 304L - Electrical Diagnostics for Farm Machinery Lab Credits: 1
- ET 330 - Microcontrollers and Networks Credits: 2
and ET 330L - Microcontrollers and Networks Lab Credits: 1
or ET 451 - Industrial Controls and PLCs Credits: 2
and ET 451L - Industrial Controls and PLCs Lab Credits: 1
- ET 370 - Data Acquisition Credits: 2
- ET 370L - Data Acquisition Lab Credits: 1

Total Required Credits: 18

Mental Health Services Minor

Program Coordinator/Contact

Katie Derrick, Professional Advisor
School of Psychology, Sociology and Rural Studies
Psychology, Sociology and Rural Studies 110
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.

Course Delivery Format

Coursework for the program is delivered in multiple formats including face-to-face lecture and online courses.

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

Jeremy Chambers, 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.

Course Delivery Format

Program coursework is on campus, in classrooms and laboratories, as well as field-based settings. Limited coursework is available online.

Academic Requirements

A minimum GPA of 2.0 must be maintained in the major courses.

Requirements for Microbiology Minor: 18 Credits

- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1

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 and MICR 498.
- DS 301 - Dairy Microbiology Credits: 2 and DS 301L - Dairy Microbiology Lab Credits: 2 may also be included.

Total Required Credits: 18

Military Science Minor

Program Coordinator/Contact

LTC Heath Abraham, Interim 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.

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 - Training Management and the Warfighting Functions (COM) Credits: 3
- MSL 301L - Training Management and the Warfighting Functions Lab (COM) Credits: 1
- MSL 302 - Applied Leadership in Small Unit Operations (COM) Credits: 3
- MSL 302L - Applied Leadership in Small Unit Operations Lab (COM) Credits: 1
- MSL 401 - The Army Officer (COM) Credits: 3
- MSL 401L - The Army Officer Lab (COM) Credits: 1
- MSL 402 - Company Grade Leadership (COM) Credits: 3
- MSL 402L - Company Grade Leadership Lab (COM) Credits: 1
- MSL 494 - Internship (COM) Credits: 4 (ROTC Advance Course)

Total Required Credits: 20

Museum Studies Minor

Program Coordinator/Contact

Leda Cempellin, Professor/Program Coordinator
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
605-688-4103

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.

Course Delivery Format

Program courses are taught on campus, online, and field-based settings.

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.

Requirements for Museum Studies Minor: 18 Credits

- AHSS 110 - Introduction to Museum Studies Credits: 3
- AHSS 494 - Internship (COM) Credits: 3

Select from the following

Select two of the following courses. Credits: 6

- ENGL 379 - Technical Communication (COM) Credits: 3
- LDR 210 - Foundations of Leadership Credits: 3
- LMNO 305 - Volunteer Management 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
- HIST 476 - History of South Dakota (COM) Credits: 3
- GEOG/ CMST 470 - Intercultural Communication (COM) Credits: 3

Art and Design Concentration

- ART 122 - Design II Color (COM) Credits: 3
- ARTH Electives Credits 3-6
- DSGN 110 - Creative Thinking Credits: 3
- DSGN 121 - Design I 2D (COM) [SGR #4, HSDC] Credits: 3
- FSRM 242 - Textiles I Credits: 2
- FSRM 242L - Textiles I Lab Credits: 1
- 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 [HSDC] 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 230 - Consumer Engagement Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2, HSDC] Credits: 3
- FCSE 421 - Adult Education Credits: 3
- HDFS 150 - Early Experience Credits: 2
- HMGT 355 - Events and Facilities Administration Credits: 3
- HO Electives Credits: 3-6
- LA Electives Credits: 3-6

Educational Programming for Early to Middle Childhood Concentration

- DANC 241 - Creative Movement for Children Credits: 2
- ECE Electives Credits: 3-6
- EDFN 102 - Introduction to Education (COM) Credits: 3
- ENGL 240 - Juvenile Literature [SGR #4, HSDC] 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

History, Science, and the Land Concentration

- AGED 404 - Methods in Agricultural Education Credits: 3
- BOT 127 - Ethnobotany Credits: 3
- GEOG Electives Credits: 3-6
- HIST 280 - Writing History (COM) Credits: 3

- HIST 378 - Folklore and Popular Culture of the U.S. Credits: 3
- HIST 409 - 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, HSDC] [CIV] Credits: 3
- PS 243 - Principles of Geology [SGR #6, HSDC] Credits: 3
- SOC 240 - The Sociology of Rural America (COM) [SGR #3, HSDC] 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.

Course Delivery Format

The program offers coursework in classroom, studio, and performance settings. The program allows for internship experiences and independent studies.

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.

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: 3
- MUS 110L - Aural Skills I (COM) Credits: 1
- MUS 130 - Music Literature and History I [SGR #4, HSDC] Credits: 2

Select from the following

Select one course of the following from the list. Credits: 3

- MUS 100 - Music Appreciation (COM) [SGR #4, HSDC] Credits: 3
- MUS 131 - Music Literature and History II [SGR #4, HSDC] Credits: 3
- MUS 201 - History of Country Music [SGR #4, HSDC] Credits: 3
- MUS 203 - Blues, Jazz, and Rock [SGR #4, HSDC] Credits: 3
- MUS 433 - Music Literature and History III Credits: 3

Total Required Credits: 18

Nuclear Engineering Minor

Program Coordinator/Contact

Robert McTaggart, Assistant Department Head and Program Coordinator
Department of Chemistry, Biochemistry and 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.

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.

Academic 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. Contact the program coordinator if you are planning to graduate with this minor.

Requirements for Nuclear Engineering Minor: 18 Credits

- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
- NE 435 - Introduction to Nuclear Engineering Credits: 3
- NE 437 - 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 - Research (COM) Credits: 1-3

Electives

Select six or more credits from the following list of courses. Credits: 6-7

- CHEM 332 - Analytical Chemistry (COM) Credits: 3
- CHEM 332L - Analytical Chemistry Lab (COM) Credits: 1
- CHEM 452 - Inorganic Chemistry (COM) Credits: 3
- CHEM 452L - Inorganic Chemistry Lab (COM) Credits: 1
- EE 434 - Power Systems Analysis Credits: 3
- EE 434L - Power Systems Analysis Lab Credits: 1
- EE 460 - Sensor and Measurements Credits: 2
- EE 460L - Sensor and Measurements Lab Credits: 1
- EE 470 - Communications Engineering Credits: 3
- EE 492 - Topics (COM) Credits: 1-4 (3 credits required) (Advanced Power Systems)
- ME 341 - Metallurgy Credits: 3
- ME 362 - Industrial Engineering Credits: 3
- ME 413 - Turbomachinery Credits: 3
- ME 418 - Design of Thermal Systems Credits: 3
- ME 433 - Non-Destructive Testing and Evaluation Credits: 3
- ME 437 - Gas Dynamics I Credits: 3
- ME 439 - HVAC System Design Credits: 3
- ME 442 - Applications of Computational Fluid Dynamics Credits: 3
- PHYS 418 - Advanced Lab II Credits: 1
- PHYS 433 - Nuclear and Elementary Particle Physics (COM) Credits: 4

Total Required Credits: 18

Nutrition Minor

Program Coordinator/Contact

Elizabeth Droke, Associate Professor
School of Health and Human Sciences
Wagner Hall 433, Box 2275A
605-688-5150

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.

Course Delivery Format

The on-campus program involves lecture, discussion, and laboratory experiences.

Academic Requirements

Some courses in the curriculum have prerequisites; higher level mathematics or chemistry courses may be accepted, with School approval.

Requirements for Nutrition Minor: 18 Credits

- NUTR 111 - Food, People and the Environment Credits: 3
- NUTR 141 - Foods Principles Credits: 3
- NUTR 141L - Foods Principles Lab Credits: 1
- NUTR 221 - Survey of Nutrition Credits: 3
or NUTR 315 - Human Nutrition (COM) Credits: 3
and CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- NUTR 323 - Nutrition Across the Life Cycle Credits: 3

Total Required Credits: 18

Select from the following

Select 1-5 credits from the list. Credits: 1-5

- HLTH 100 - Wellness for Life (COM) Credits: 1
- HLTH 100L - Wellness for Life Lab (COM) Credits: 1
- HLTH 220 - Social Determinants of Health Credits: 3
- HLTH 320 - Community Health (COM) Credits: 3
- HLTH 405 - Health Coaching Concepts and Skills Credits: 3
- HLTH 475 - Principles of Community Health Education Credits: 3
- HLTH 479 - Health Promotion Programming and Evaluation Credits: 2
- HMG 251 - Foodservice Sanitation Credits: 1
- NUTR 225 - Nutrition for Exercise and Sport Credits: 3
- NUTR 341 - Food Science for Nutrition and Dietetics Credits: 3
- NUTR 341L - Food Science for Nutrition and Dietetics Lab Credits: 1
- NUTR 422 - Advanced Human Nutrition and Metabolism Credits: 4
- NUTR 460 - Nutrigenomics and Molecular Nutrition Credits: 3

Oceti Sakowin Language Minor

Program Coordinator/Contact

Erin Griffin, Assistant Professor
School of American and Global Studies
Lincoln Hall 229, Box 2212
605-688-5101

Program Information

The Oceti Sakowin language, consisting of the Dakota, Lakota, and Nakota dialects, is the official Indigenous language of South Dakota and is spoken by 38 tribal nations across the region. In this minor, students learn to effectively speak, read, and write in the Oceti Sakowin language, with courses consisting of conversation, grammar, reading comprehension, culture and literature. Students also develop skills important to civic engagement, including translation, transcription, working with fluent speakers and historical materials, language planning, teaching methods, and building domains for the use of Oceti Sakowin language as a medium of communication. The minor complements a wide range of majors in agriculture, communication, education, health sciences, and social sciences.

Course Delivery Format

Courses are delivered in face-to-face and online environments, utilizing lectures, discussions, and applied learning.

Requirements for Oceti Sakowin Language Minor: 18 Credits

- LAKL 201 - Intermediate Lakota I (COM) [SGR #4, HSDC] Credits: 3
- LAKL 202 - Intermediate Lakota II (COM) [SGR #4, HSDC] Credits: 3
- LAKL 301 - Intermediate High Lakota I Credits: 3
- LAKL 302 - Intermediate High Lakota II Credits: 3

Select from the following

Select six credits from the following list. Credits: 6

- LAKL 420 - Oceti Sakowin Language Teaching Methods Credits: 3
- LAKL 433 - Oceti Sakowin Language: History and Culture Credits: 3
- LAKL 444 - Oceti Sakowin Language: Transcription and Translation Credits: 3

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.

Course Delivery Format

Program coursework will be delivered in a combination of lecture and project-based learning models.

Academic Requirements

Music majors with a specialization in Music Entrepreneurship are not eligible for this minor.

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
- HMG 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

Pharmacology and Toxicology Minor

Program Contact/Coordinator

Dan Hansen, Laughrey Endowed Dean
Brad Laible, 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
605-688-6197 or 605-688-5591

Program Information

Pharmacology is the study of how chemical agents, both natural and synthetic (i.e. drugs), affect biological systems. Toxicology is the study of drug overdoses and other poisonings. The Pharmacology and Toxicology Minor enables students to explore fundamental and advanced concepts in pharmacology and toxicology. In this minor students will learn basic pharmacology and toxicology concepts that will prepare them for further education and careers in medical/health science professions.

Academic Requirements

Students in the Pharmaceutical Sciences (B.S.) program are not eligible for this minor.

Requirements for Pharmacology and Toxicology Minor: 18 Credits

- BIOL 325 - Physiology (COM) Credits: 3
and BIOL 325L - Physiology Lab (COM) Credits: 1
or BIOL 326 - Biomedical Physiology Credits: 3
and BIOL 326L - Biomedical Physiology Lab Credits: 1
- PHA 352 - Pathophysiology, Pharmacology and Toxicology I Credits: 3
- PHA 353 - Pathophysiology, Pharmacology and Toxicology II Credits: 3
- PHA 452 - Pathophysiology, Pharmacology and Toxicology III Credits: 4
- PHA 453 - Pathophysiology, Pharmacology and Toxicology IV Credits: 4

Total Required Credits: 18

Philosophy Minor

Program Coordinator/Contact

Greg Peterson, Professor of Philosophy and Religion
School of American and Global Studies
Lincoln Hall 223, Box 2212
605-688-6749

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 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.

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, HSDC] Credits: 3
- 300-400 Level Philosophy Elective Credits: 6
- Additional Philosophy Elective Credits: 9

Total Required Credits: 18

Physics Minor

Program Coordinator/Contact

Robert McTaggart, Assistant Department Head
Department of Chemistry, Biochemistry and 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.

Course Delivery Format

Physics students primarily learn through hands-on, in-person instruction in lectures, labs, and field experiences. While most courses are taught on campus, a few upper-level courses are offered online.

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.

Requirements for Physics Minor: 18 Credits

- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3 and PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1 or PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC] Credits: 3 and PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3 and PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1 or PHYS 209 - Fundamentals of Physics II (COM) [SGR #6, HSDC] Credits: 3 and PHYS 209L - Fundamentals of Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3 Physics Elective Credits: 3
- 300 level or higher Physics Elective Credits: 4 (SEED 413 - 7-12 Science Methods (COM) Credits: 3 may be used in partial fulfillment of this requirement)

Total Required Credits: 18

Political Science Minor

Program Coordinator/Contact

David Wiltse, Professor of Political Science
School of American and Global Studies
Lincoln Hall 327, Box 2212
605-688-6367

Program Information

As a political science minor, students can learn about American politics, how governments and leaders relate to each other in times of peace and conflict, the US Constitution and basic rights and liberties, as well as how people make political decisions. Political science graduates pursue a variety of career paths, such as lawyers, journalists, data and financial analysts, state and local government, legislative staff, nonprofits, issue advocacy and public management.

Course Delivery Format

The program offers both online and on-campus courses.

Academic Requirements

No grade below a "C" in political science courses may be counted toward the minor.

Requirements for Political Science Minor: 18 Credits

- POLS 100 - American Government (COM) [SGR #3, HSDC] [CIV] 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

Kasiviswanathan Muthukumarappan, Klingbeil Endowed Department Head
Department of Agricultural and Biosystems Engineering
Raven Precision Agriculture Center 136
605-688-5666

Karen Sanguinet, Klingbeil Endowed 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.

Course Delivery Format

Instruction will occur through a combination of traditional classroom methods, laboratory exercises using current agricultural production technologies, and agricultural mapping software.

Academic Requirements

Students must have a 2.5 GPA or higher and a grade of C or higher in the program's coursework.

Requirements for Precision Agriculture Minor: 18-19 Credits

- AST 426 - Technology Applications for Precision Agriculture Credits: 2
- AST 426L - Technology Applications for Precision Agriculture Lab Credits: 1
- PRAG 340 - Climate Risk Management with Precision Agriculture Credits: 3
- PRAG 427 - Precision Ag Data Mapping Credits: 2
- PRAG 440 - Crop Management with Precision Farming Credits: 2
- PRAG 440L - Crop Management with Precision Farming Lab Credits: 1

Select from the following

Select 7-8 credits from the following list. Credits: 7-8

- AST 313 - Farm Machinery Systems Management Credits: 2
- AST 313L - Farm Machinery Systems Management Lab Credits: 1
- AST 412 - Fluid Power Technology Credits: 2
- AST 412L - Fluid Power Technology Lab Credits: 1

- PRAG 203 - Introduction to Precision Agriculture Credits: 2
- PRAG 203L - Introduction to Precision Agriculture Lab Credits: 1
- PRAG 304 - Electrical Diagnostics for Farm Machinery Credits: 2
- PRAG 304L - Electrical Diagnostics for Farm Machinery Lab Credits: 1
- PRAG 410 - Soil Geography and Land Use Interpretation Credits: 2
- PRAG 410L - Soil Geography and Land Use Interpretation Lab Credits: 1
- PRAG 424 - Wheat Production Credits: 2
- PRAG 425 - Soybean Production Credits: 2
- PRAG 426 - Corn Production Credits: 2
- PRAG 428 - Use of Soil and Plant Sensors in Crop Production Credits: 3

Total Required Credits: 18-19

Production and Service of Wine, Beer and Spirits Minor

Program Coordinator/Contact

Kunsoo Park, Associate Professor
School of Health and Human Sciences
Wagner Hall 425, Box 2275A
605-688-5223

Program Information

The minor in Production and Service of Wine, Beer and Spirits provides students with a general understanding and the skills in producing, marketing, and serving wine, beer, and spirits. This is an interdisciplinary minor that spans the areas of nutrition, hospitality management, human resource management, and marketing. This minor provides students with the science and techniques behind brewing and fermentation of different beverages, as well as rigorous procedures for the sanitation and safe handling/serving of alcoholic beverages. Learn how to appropriately develop flavors in distilled beverages and how to pair them appropriately with food. Marketing, management, and customer service are also components of this minor.

Course Delivery Format

Practical learning experiences complement traditional academic settings.

Academic Requirements

Students must be 21 years of age or older to complete HMGT 480 - Introduction to Wine, Beer, and Spirits Credits: 2, HMGT 480L - Introduction to Wine, Beer, and Spirits Lab Credits: 1, NUTR 426 - Production of Wine Beer Spirits Credits: 2, and NUTR 426L - Production of Wine Beer Spirits Lab Credits: 1.

Requirements for Production and Service of Wine, Beer and Spirits Minor: 18-19 Credits

- HMGT 251 - Foodservice Sanitation Credits: 1
- HMGT 380 - Foodservice Operations and Purchasing Management Credits: 3 or RECR 415 - Sport and Recreation Facility Management Credits: 3
- HMGT 480 - Introduction to Wine, Beer, and Spirits Credits: 2
- HMGT 480L - Introduction to Wine, Beer, and Spirits Lab Credits: 1
- HMGT 482 - Hospitality Marketing Credits: 3
- NUTR 426 - Production of Wine Beer Spirits Credits: 2
- NUTR 426L - Production of Wine Beer Spirits Lab Credits: 1

Select from the following

Select 5-6 credits from the following. Credits: 5-6

- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- HMGT 361 - Hospitality Industry Law Credits: 3
- HMGT 380 - Foodservice Operations and Purchasing Management Credits: 3 (if not used above)
- HO 411 - Fruit Crop Systems Credits: 1-6 (may be repeated with different modules)
- HRM 460 - Human Resource Management (COM) Credits: 3
- NUTR 141 - Foods Principles Credits: 3
- NUTR 141L - Foods Principles Lab Credits: 1
- RECR 415 - Sport and Recreation Facility Management Credits: 3 (if not used above)

Total Required Credits: 18-19

Professional Communication Minor

Program Coordinator/Contact

Jason McEntee, Director
School of English and Interdisciplinary Studies
Pugsley Hall 301, Box 2218
605-688-5191

Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211, Box 2235
605-688-4171

Program Information

The Professional Communication minor will prepare students from all disciplines to communicate persuasively, clearly, and effectively in professional settings, thereby contributing to the economic growth of the State and region. Majors who have well-rounded communication backgrounds find careers as human resources representatives, communication specialists, lawyers, editors, publishers, copywriters, event planners, website designers, writers and free-lance writers, and grant writers in business, government, academia, and the non-profit sector. Combining the minor with majors in areas such as social sciences, natural sciences, health fields, and economics and business will provide transferable communication skills, making graduates more marketable for positions that require higher level communication skills.

Course Delivery Format

The interdisciplinary nature ensures that students will develop expertise in writing, speaking, 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" settings that require high level communication skills. The internship should require that interns can put into practice high level communication skills while it also should develop specific job-related skills.

Academic Requirements

To count toward the minor, courses must be passed with a minimum grade of "C."

Requirements for Professional Communication Minor: 18 Credits

- CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] Credits: 3
- CMST 311 - Business and Professional Communication (COM) Credits: 3
- ENGL 379 - Technical Communication (COM) Credits: 3 or ENGL 383 - Creative Writing I (COM) Credits: 3
- MCOM 220 - Introduction to Digital Media (COM) Credits: 3

Select from the following

Select six credits from the following courses. Credits: 6

- CMST 320 - Communication in Interviewing (COM) Credits: 3
- CMST 410 - Organizational Communication (COM) Credits: 3
- CMST 415 - Communication and Gender (COM) Credits: 3
- CMST 416 - Rhetorical Criticism (COM) Credits: 3
- CMST 422 - Persuasion (COM) Credits: 3
- CMST 470 - Intercultural Communication (COM) Credits: 3
- CMST 494 - Internship (COM) Credits: 1-16 (3 credits required)
- ENGL 283 - Introduction to Creative Writing (COM) [SGR #1, HSDC] Credits: 3
- ENGL 379 - Technical Communication (COM) Credits: 3
- ENGL 383 - Creative Writing I (COM) Credits: 3
- ENGL 471 - Academic Editing and Publishing Credits: 3
- ENGL 472 - Film Criticism (COM) Credits: 3
- ENGL 473 - Creative Writing: Screenwriting (COM) Credits: 3
- ENGL 475 - Creative Writing: Non-Fiction (COM) Credits: 3
- ENGL 476 - Creative Writing: Fiction (COM) Credits: 3
- ENGL 478 - Creative Writing: Poetry (COM) Credits: 3
- ENGL 485 - Writing Center Tutoring Credits: 3
- ENGL 492 - Topics (COM) Credits: 1-5 (3 credits required) (Topics in Professional Writing: Writing for Professions in the Sciences and Humanities)
- ENGL 494 - Internship (COM) Credits: 1-12 (3 credits required)
- GDES 101 - Computer Graphics [HSDC] Credits: 3
- GDES 207 - Interactive Design I Credits: 3
- GDES 216 - Typography Credits: 3

- HIST 280 - Writing History (COM) Credits: 3
- LING 203 - English Grammar Credits: 3
- MCOM 151 - Introduction to Mass Communication (COM) [SGR #4, HSDC] Credits: 3
- MCOM 210 - Basic Media Writing (COM) Credits: 3
- MCOM 219 - Social Media Strategies Credits: 3
- MCOM 311 - News Editing (COM) Credits: 3
- MCOM 494 - Internship (COM) Credits: 1-12 (3 credits required)
- PUBR 243 - Public Relations Principles (COM) Credits: 3
- PUBR 345 - Public Relations Writing Credits: 3
- THEA 325 - Playwriting Credits: 3

Total Required Credits: 18

Psychology Minor

Program Contact/Coordinator

Katie Derrick, Professional Advisor
School of Psychology, Sociology and Rural Studies
Psychology, Sociology and Rural Studies 110
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.

Course Delivery Format

Coursework for the program is delivered in multiple formats including face-to-face lecture and online courses.

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.

Requirements for Psychology Minor: 18 Credits

- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] 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

Rebecca A. Kuehl, Associate Director
Erica Quam, Professional Academic Advisor
School of Communication and Journalism
Yeager Hall 211
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.

Course Delivery Format

The program offers coursework in classroom, studio, online, and field-based settings.

Equipment and Supplies

Students are encouraged to purchase a laptop (Apple Mac preferred) and software appropriate for the discipline.

Requirements for Public Relations Minor: 18 Credits

- MCOM 210 - Basic Media Writing (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. Credits: 9

- ADV/ PUBR 411 - Media Analytics Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2, HSDC] Credits: 3
- CMST 311 - Business and Professional Communication (COM) Credits: 3
- CMST 422 - Persuasion (COM) Credits: 3
- HMG 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 - Introduction to Digital Media (COM) Credits: 3

Total Required Credits: 18

Ranch Management Minor

Program Coordinator/Contact

Cody Wright, Professor
Department of Animal Science
Animal Science Complex 212
605-688-5448

Nicole Klein, Associate Director
Ness School of Management and Economics
Harding Hall 100
605-688-4141

Lan Xu, Professor
Department of Natural Resource Management
McFadden Biostress Laboratory 42C
605-688-5060

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.

Course Delivery Format

The Ranch Management minor provides hands-on experiences in the classroom, laboratories, and field trips.

Requirements for Ranch Management Minor: 18-19 Credits

- AGE 271 - Farm and Ranch Management Credits: 3
or AGE 471 - Advanced Farm and Ranch Management Credits: 3
- AS/ RANG 215 - Introduction to Integrated Ranch Management Credits: 3

- RANG 205 - Introduction to Range Management [SGR #6, HSDC] Credits: 2
- RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1

Select from the following

Select courses from the following, at least one must be prefixed AGECE, and at least one must be prefixed AS. Credits: 9-10

- AGECE 271 - Farm and Ranch Management Credits: 3 (if not used above)
- AGECE 354 - Agricultural Marketing and Prices Credits: 3
- AGECE 471 - Advanced Farm and Ranch Management Credits: 3 (if not used above)
- AS 231 - Introduction to Bison Management Credits: 3
- AS 264 - Ruminant Livestock Production Credits: 3
- AS 474 - Cow/Calf Management Credits: 2
- AS 474L - Cow/Calf Management Lab Credits: 1
- AS 476 - Horse Production Credits: 2
- AS 476L - Horse Production Lab Credits: 1
- AS 477 - Sheep and Wool Production Credits: 2
- AS 477L - Sheep and Wool Production Lab Credits: 1
- RANG 321 - Wildland Ecosystems Credits: 3
- RANG 374 - Habitat Conservation and Management Credits: 3
- RANG 374L - Habitat Conservation and Management Lab Credits: 1
- RANG 421 - Grassland Fire Ecology Credits: 3

Total Required Credits: 18-19

Rangeland Ecology and Management Minor

Program Coordinator/Contact

Lora Perkins, Professor
Department of Natural Resource Management
McFadden Biostress Laboratory, Room 142B
605-688-4997

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.

Accreditation

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, HSDC] Credits: 2
- RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1
- RANG 374 - Habitat Conservation and Management Credits: 3
- RANG 374L - Habitat Conservation and Management Lab Credits: 1
- RANG Courses Credits: 5

Select from the following

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 - Sheep and Wool Production Credits: 2
- AS 477L - Sheep and Wool Production Lab Credits: 1
- BIOL 311 - Principles of Ecology (COM) Credits: 3
- BOT 301 - Plant Systematics (COM) Credits: 2
- BOT 301L - Plant Systematics Lab (COM) Credits: 1
- GEOG 365 - Land Use and Planning Credits: 3
- PS 213 - Soils [SGR #6, HSDC] Credits: 2

- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 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 - Principles of Wildlife Management Credits: 2
- WL 411L - Principles of Wildlife Management Lab Credits: 1

Total Required Credits: 18

Rehabilitation Services Minor

Program Contact/Coordinator

Jay Trenhaile, Professor
School of Education, Counseling and Human Development
Thompson Center 116, Box 2214
605-688-4367

Program Information

A minor in rehabilitation services fits well with majors such as Human Development and Family Science, 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.

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
Lincoln Hall 131, Box 2212
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 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.

Course Delivery Format

The program offers both online and on-campus courses.

Requirements for Religion Minor: 18 Credits

- REL 250 - World Religions (COM) [SGR #4, HSDC] Credits: 3
- Additional Religion Courses Credits: 15

Total Required Credits: 18

Retail Merchandising Minor

Program Coordinator/Contact

Anne-Marie Junker, Instructor
School of Health and Human Sciences
Wagner Hall 435, Box 2275A
605-688-4002

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.

Course Delivery Format

Students learn through lecture, laboratory, and hands-on learning experiences.

Academic Requirements

Fashion Studies and Retail Merchandising majors are not eligible for the minor.

Requirements for Retail Merchandising Minor: 18 Credits

- FSRM 172 - Introduction to Apparel Merchandising Credits: 2
- FSRM 372 - Trending and Buying Credits: 3
- FSRM 462 - Retail Management Credits: 3
- FSRM 473 - Global Sourcing Credits: 2
- FSRM 473L - Global Sourcing Lab Credits: 1

Select from the following

Select 7 credits from the following list. Credits: 7

- FSRM 253 - Socio-Psychological Aspects of Dress Credits: 3
- FSRM 315 - Apparel Design Credits: 2
- FSRM 315L - Apparel Design Lab Credits: 1
- FSRM 352 - History of Dress in the Western World Credits: 3
- FSRM 361 - Aesthetics Credits: 3
- FSRM 472 - Merchandising Credits: 2
- FSRM 472L - Merchandising Lab Credits: 1
- FSRM 477 - Current Issues in the Workplace Credits: 1
- FSRM 491 - Independent Study (COM) Credits: 1-3 (1 credit required)
- HMG 282 - Customer Service Credits: 3

Total Required Credits: 18

Sociology Minor

Program Coordinator/Contact

Katie Derrick, Professional Advisor
School of Psychology, Sociology and Rural Studies
Psychology, Sociology and Rural Studies 110
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.

Course Delivery Format

Coursework for the program is delivered in multiple formats including face-to-face lecture and online courses.

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 or Criminal Justice.

Requirements for Sociology Minor: 18 Credits

- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] 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

Sungyong Jung, Department Head
McComish 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.

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 - Microcontroller Systems Design Credits: 3
- EE 347L - Microcontroller Systems Design Lab Credits: 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

Karen Sanguinet, Klingbeil Endowed Department Head
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.

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.

Academic Requirements

Students must have a 2.5 GPA or higher and a grade of C or higher in the program's coursework.

Requirements for Soil Health Management Minor: 18 Credits

- PS 213 - Soils [SGR #6, HSDC] Credits: 2
- PS 213L - Soils Lab [SGR #6, HSDC] Credits: 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 - Soil Geography and Land Use Interpretation Credits: 2
- PRAG 410L - Soil Geography and Land Use Interpretation Lab Credits: 1
- PRAG 423 - Soil Fertility and Plant Nutrient Management Credits: 3
- PS 412 - Environmental Soil Chemistry Credits: 3
- PS 421 - Soil Microbiology Credits: 2
- PS 421L - Soil Microbiology Lab Credits: 1
- PS 462 - Environmental Soil Management Credits: 2
- PS 462L - Environmental Soil Management Lab Credits: 1

Select from the following

Select at least 6 credits from the following. Credits 6-9

- HO/ PS 447 - Organic Plant Production Credits: 3
- PRAG 310 - Sustainable Agriculture Credits: 3
- PRAG 440 - Crop Management with Precision Farming Credits: 2
- PRAG 440L - Crop Management with Precision Farming Lab Credits: 1
- PS 483 - Irrigation – Crop and Soil Practices Credits: 3

Total Required Credits: 18

Spanish Minor

Program Coordinator/Contact

José (Pepe) Álvarez, Associate Professor of Spanish
School of American and Global Studies
Lincoln Hall 321, Box 2212
605-688-4273

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.

Course Delivery Format

The Spanish minor offers a combination of face-to-face on campus and online courses every semester. During the summer term, we also offer faculty-led study abroad programs and non-faculty-lead internships abroad as well as online courses.

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 and General Academic Information in the catalog for more detailed information.

Requirements for Spanish Minor: 18 Credits

- SPAN 201 - Intermediate Spanish I (COM) [SGR #4, HSDC] Credits: 3
 - SPAN 202 - Intermediate Spanish II (COM) [SGR #4, HSDC] 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

Sport Management Minor

Program Coordinator/Contact

Bryan Romsa, Assistant Professor
School of Health and Human Sciences
Wagner Hall 411, Box 2275A
605-688-6389

Program Information

The Sport Management 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 Sport Management Coordinator for details and to plan for this minor.

Course Delivery Format

The program coursework is delivered through lecture, laboratory, and field-based learning experiences.

Requirements for Sport Management Minor: 18 Credits

- RECR 140 - Introduction to Sport and Recreation Management Credits: 3
- RECR 311 - Ethics in Sport and Recreation Management Credits: 3
- RECR 411 - Sports Marketing (COM) Credits: 3
- RECR 415 - Sport and Recreation Facility Management Credits: 3
- RECR 440 - Sport and Recreation Administration Credits: 3
- RECR 486 - Sport Law (COM) Credits: 3

Total Required Credits: 18

Statistics Minor

Program Coordinator/Contact

Eun Heui Kim, Department Head
Donna Flint, Assistant 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.

Course Delivery Format

Program courses are delivered on campus, in classroom and laboratory settings, and online.

Academic Requirements

A grade of "C" or better is required in each course.

Requirements for Statistics Minor: 18 Credits

- STAT 382 - Probability Credits: 3
- STAT 415 - R Programming Credits: 3
- STAT 482 - Mathematical Statistics Credits: 3

Select from the following

Select three courses from the following. Credits: 9

- MATH 475 - Operations Research (COM) Credits: 3
- STAT 383 - Geospatial Data Analysis Credits: 3
- STAT 410 - SAS Programming Credits: 3
- STAT 445 - Nonparametric Statistics (COM) Credits: 3
- STAT 451 - Predictive Analytics I Credits: 3
- STAT 453 - Applied Bayesian Statistics Credits: 3
- STAT 460 - Time Series Analysis (COM) Credits: 3

Total Required Credits: 18

Studio Arts Minor

Program Coordinator/Contact

Diana Behl, Associate Professor
School of Design
Chicoine Architecture, Mathematics and Engineering Hall 382, Box 2225
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.

Course Delivery Format

Course content is delivered through hands-on studio work combined with lectures, demonstrations, and critiques.

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.

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, HSDC] does not meet the Art History requirement)

Total Required Credits: 18

Surface Mount Technology Minor

Program Coordinator/Contact

Julian Kang, Department Head
Department of Construction and Concrete Industry Management
Solberg Hall 116
605-688-6417

Program Information

The minor in Surface Mount Technology (SMT) provides knowledge and skills in manufacturing processes, materials and methods for production of printed circuit board, quality control and inspection of processes and products, lean processes, and SMT processes and methods. Students earning a minor in Surface Mount Technology will be able to pursue careers in printed circuit board manufacturing, a rapidly expanding career area due to the increasing number of integrated circuit chips used in modern products.

Course Delivery Format

The program provides coursework on the Brookings campus in classroom, laboratory, and field-based settings.

Requirements for Surface Mount Technology Minor: 18 Credits

- GE 101 - Introduction to Engineering and Technical Professions [HSDC] Credits: 1
- MNET 231 - Manufacturing Processes I Credits: 2
OR ME 121 - Production and Fabrication Processes Credits: 1
and ME 121L - Production and Fabrication Processes Lab Credits: 1
- MNET 367 - Production Strategy Credits: 2
- MNET 367L - Production Strategy Lab Credits: 1
- MNET 467 - Principles of Surface Mount Technology Credits: 3
- MNET 469 - Immersive Experience in Surface Mount Technology Credits: 3
- OM 462 - Quality Management Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3
or STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3

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.

Course Delivery Format

The program includes lecture, discussion, laboratory, field-based experiences, and online coursework.

Requirements for Sustainability Minor: 18-19 Credits

- GEOG 111 - Sustainable Society (COM) [SGR #3, HSDC] Credits: 3
- GEOG 447 - Geography of the Future (COM) Credits: 3
or GEOG 454 - Sustainable Communities Credits: 3
- NUTR 111 - Food, People and the Environment Credits: 3
or NRM 110 - People and the Environment [HSDC] Credits: 3

Human Dimensions

Select three credits from the following list. Credits: 3

- AFES 203 - Global Food Systems [SGR #3, HSDC] Credits: 3
- AGECE/ ECON 472 - Resource and Environmental Economics (COM) Credits: 3
- GEOG 415 - Environmental Geography and Sustainability Credits: 3
- HIST 409 - Environmental History of the U.S. (COM) Credits: 3
- PSYC 244 - Environmental Psychology Credits: 3
- SOC 462 - Population Studies Credits: 3
- WL 430 - Human Dimensions in Natural Resource Management Credits: 3

Scientific Dimensions

Select three to four credits from the following list. Credits: 3-4

- CEE 225 - Principles of Environmental Science and Engineering Credits: 3
- CM 460 - Sustainable Building Systems Concepts and Analysis Credits: 3
- EES 275 - Introduction to Environmental Science Credits: 3
- GEOG 425 - Population Geography Credits: 3
- NRM 221 - Introduction to Conservation Planning and Management Credits: 3
- NRM 311 - Principles of Ecology (COM) Credits: 3
- PRAG 310 - Sustainable Agriculture Credits: 3
- PS 447 - Organic Plant Production Credits: 3
- RANG 205 - Introduction to Range Management [SGR #6, HSDC] Credits: 2
- RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC] Credits: 1
- RANG 374 - Habitat Conservation and Management Credits: 3
- RANG 374L - Habitat Conservation and Management Lab Credits: 1
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3

Ethics, Law, Policy and Planning

Select three credits from the following list. Credits: 3

- AGECE/ BADM 457 - Business Ethics (COM) Credits: 3
- AGECE/ BLAW 462 - Environmental Law Credits: 3
- AGECE 479 - Agricultural Policy Credits: 3
- AGECE 485 - Farming and Food Systems Economics Credits: 3
- FSRM 473 - Global Sourcing Credits: 2
- FSRM 473L - Global Sourcing Lab Credits: 1
- 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: 18-19

Sustainable Energy Systems Minor

Program Coordinator/Contact

Michael Twedt, Senior Lecturer
Department of Mechanical Engineering
Crothers Engineering Hall 226, Box 2219
605-688-4303

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.

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 - Renewable Energy Systems Credits: 3
- ME 478 - Mechanical Systems Design I Credits: 3 ¹
- ME 479 - Mechanical Systems Design II (COM) Credits: 3 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 - Research (COM) Credits: 1-3
- EE 494 - Internship (COM) Credits: 1-3
- EE 498 - Research (COM) Credits: 1-3
- ME 494 - Internship (COM) Credits: 1-3
- ME 498 - Research (COM) Credits: 1-3
- PHYS 494 - Internship (COM) Credits: 1-4
- PHYS 498 - Research (COM) Credits: 1-12

Electives

- ABE 444 - Unit Operations of Biological Materials Processing Credits: 3
- ABE 444L - Unit Operations of Biological Materials Processing Lab Credits: 1
- EE 430 - Electromechanical Systems Credits: 3
- EE 430L - Electromechanical Systems Lab Credits: 1
- EE 434 - Power Systems Analysis Credits: 3
- EE 434L - Power Systems Analysis Lab Credits: 1
- EE 436 - Photovoltaic Systems Engineering Credits: 3
- EE 436L - Photovoltaic Systems Engineering Lab Credits: 1
- ME 410 - Principles of HVAC Engineering Credits: 3
- ME 412 - Internal Combustion Engines Credits: 3
- ME 413 - Turbomachinery Credits: 3
- ME 414 - Air Pollution Control Credits: 3
- ME 415 - Heat Transfer Credits: 3
- ME 418 - Design of Thermal Systems Credits: 3
- ME 431 - Aerodynamics Credits: 3
- ME 439 - HVAC System Design Credits: 3
- NE 435 - 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

Karen Sanguinet, Klingbeil Endowed Department Head
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.

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 - Introduction to Horticulture Credits: 2
- HO 111L - Introduction to Horticulture Lab Credits: 1
- HO 434 - 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 - Fruit Crop Systems Credits: 1-6
- HO/ PS 413 - Greenhouse and High Tunnel Management Credits: 2
- HO/ PS 413L - Greenhouse and High Tunnel Management Lab Credits: 1
- HO 435 - Local Food Production: Harvest and Storage Credits: 2
- HO 444 - Vegetable Crop Systems Credits: 1-6
- HO 447 - Organic Plant Production Credits: 3
- NUTR 141 - Foods Principles Credits: 3
- NUTR 141L - Foods Principles Lab Credits: 1

Total Required Credits: 18

Theatre Minor

Program Coordinator/Contact

Jim Wood, Program Coordinator
School of Performing Arts
Oscar Larson Performing Arts Center 189N, 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.

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, HSDC] Credits: 3
- THEA 131 - Introduction to Acting (COM) [SGR #4, HSDC] Credits: 3
- THEA 241 - Stagecraft (COM) Credits: 3
- THEA 243 - Make-Up (COM) Credits: 3
- THEA 351 - Directing (COM) Credits: 3

Select from the following

Select three credits 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 325 - Playwriting Credits: 3
- THEA 333 - Intermediate Acting Credits: 3
- THEA 336 - Theatre Activities - Acting Credits: 1
- THEA 340 - Stage Combat Credits: 3
- THEA 346 - Theatre Activities - Technical Credits: 1
- 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 441 - Scene Design (COM) Credits: 3
- THEA 443 - Costume Design (COM) Credits: 3
- THEA 445 - Lighting (COM) Credits: 3
- THEA 447 - Sound Design for the Performing Arts Credits: 3
- THEA 451 - Advanced Directing (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

Uncrewed Aircraft Systems Minor

Program Coordinator/Contact

Bob Watrel, Department Head
Department of Geography and Geospatial Sciences
109 Wecota Hall
605-688-4511

Program Information

An uncrewed aerial vehicle (UAV), commonly known as a drone, is an aircraft without any human pilot, crew, or passengers controlling it from the inside. Uncrewed Aircraft Systems or UAS is the system behind what makes a drone or UAV work. This includes the equipment, accessories, and software needed to allow a UAV to fly autonomously or remotely. Uncrewed Aircraft Systems is a technology with many commercial applications, some of which include remote sensing, geographic information systems (GIS), precision agriculture, construction, resource management, engineering, cinematography, and emergency services. The minor provides the knowledge and skills necessary to apply this technology to a field of study or field of work. The minor covers mission planning and safety, how to acquire data using sensors, how to process acquired data, ethical considerations, and the basic components required to operate a UAS, among others. This minor provides the knowledge necessary to attain the FAA Part 107 small UAS license.

Course Delivery Format

Coursework for the program is delivered in multiple formats including face-to-face lecture and online courses.

Requirements for Uncrewed Aircraft Systems Minor: 18 Credits

- AVIA 200 - Aviation Safety Credits: 3
- GEOG 270 - Introduction to Small Uncrewed Aircraft Systems Credits: 3
- GEOG 280 - Introduction to Remote Sensing Credits: 3
- GEOG 387 - UAS Photography and Videography Credits: 3

Select from the following

Please select two courses from the following list. Credits: 6

- AST 426 - Technology Applications for Precision Agriculture Credits: 2
- AST 426L - Technology Applications for Precision Agriculture Lab Credits: 1
- AVIA 300 - Human Factors in Aviation Credits: 3
- BLAW 433 - Real Estate (COM) Credits: 3
- CM 400 - Risk Management and Construction Safety Credits: 3
- GEOG 372 - Introduction to GIS (COM) Credits: 2
- GEOG 372L - Introduction to GIS Lab (COM) Credits: 1
- GEOG 386 - UAS Applications for Emergency Management Credits: 3

- GEOG 483 - UAS Remote Sensing Credits: 2
- GEOG 483L - UAS Remote Sensing Lab Credits: 1

Total Required Credits: 18

Women, Gender, and Sexuality Studies Minor

Program Coordinator/Contact

Jason McEntee, Director
School of English and Interdisciplinary Studies
Pugsley Center 301, Box 2218
605-688-5191

Program Information

Women, Gender, and 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 professional 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 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.

Course Delivery Format

Program courses are taught on campus, online, and in-field based settings.

Academic Requirements

Eighteen hours with a "C" or better in each course are required for the minor.

Various departments and schools periodically offer courses related to women, gender, and/or sexuality studies and may be used as electives with approval by the program coordinator.

Requirements for Women, Gender, and Sexuality Studies Minor: 18 Credits

- WMST 247 - Introduction to Women, Gender, and Sexuality Studies (COM) [SGR #3, HSDC] Credits: 3
- Select 15 credits from at least three different prefixes that are cross-listed with WMST. Students may also select 3 credits from WMST 491, WMST 492, WMST 494, and WMST 498. Credits: 15

Total Required Credits: 18

Pre-Professional Interest Areas

Pre-Athletic Training

Program Coordinator/Contact

Trevor Roiger, Athletic Training Program Director
School of Health and Human 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 (or be in the process of completing a bachelor's degree if on the early assurance/accelerated track) 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 Human 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.)
- Health Studies (B.S.)
- Biology (B.S.)
- Human Development and Family Science (B.S.)
- Nutrition and Dietetics (B.S.)
- Psychology (B.A./B.S.)

Suggested Coursework

- AT 164 - Introduction to Athletic Training (COM) Credits: 2
- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 and BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3 or BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC] Credits: 2 and BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3 and CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1 and CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3 and CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1 or CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3 and CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1 and CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC] Credits: 4 and CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC] Credits: 1
- EXS 350 - Exercise Physiology (COM) Credits: 3
- EXS 354 - Prevention and Care of Athletic Injuries (COM) Credits: 2
- EXS 354L - Prevention and Care of Athletic Injuries Lab (COM) Credits: 1
- EXS 454 - Biomechanics (COM) Credits: 2
- EXS 454L - Biomechanics Lab (COM) Credits: 1
- HSC 443 - Public Health Science Credits: 3
- NUTR 315 - Human Nutrition (COM) Credits: 3
- PHYS 101 - Survey of Physics (COM) [SGR #6, HSDC] Credits: 3 and PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC] Credits: 1 or PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3 and PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3 or HSC 445 - Epidemiology Credits: 3

Admission to the Master of Science in Athletic Training Program

Students interested in applying to the Master of Science in Athletic Training at SDSU are encouraged to visit the program website (<https://www.sdstate.edu/school-health-human-sciences/athletic-training-program>) at their earliest convenience to learn more about the program and the application process.

Pre-Chiropractic

Program Coordinator/Contact

Teresa Pederson, Coordinator and Advisor
Department of Biology and Microbiology
Alfred Dairy Science Hall 225F
605-688-4563

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 - ACS Certified (B.S.)
- Nutrition and Dietetics (B.S.)
- Physics (B.S.)

Suggested Coursework

Biology

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 290 - Seminar (COM) Credits: 1
- BIOL 326 - Biomedical Physiology Credits: 3
- BIOL 326L - Biomedical Physiology Lab Credits: 1
- MICR 233 - Introductory Microbiology Credits: 3
- MICR 233L - Introductory Microbiology Lab Credits: 1

Chemistry and Biochemistry

- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods - Biochemistry Credits: 1

Physics

- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1

Psychology

- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3

Electives

Select at least one of the following courses.

- EXS 350 - Exercise Physiology (COM) Credits: 3
- EXS 454 - Biomechanics (COM) Credits: 2
- EXS 454L - Biomechanics Lab (COM) Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Additional Coursework

- PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3

Pre-Dental

Program Coordinator/Contact

Teresa Pederson, Coordinator and Advisor
Department of Biology and Microbiology
Alfred Dairy Science Hall 225F
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 - ACS Certified (B.S.)
- Microbiology (B.S.)
- Physics (B.S.)

Suggested Coursework

Biology

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 202 - Genetics and Molecular Biology Credits: 3
- BIOL 202L - Genetics and Molecular Biology Lab Credits: 1
- BIOL 204 - Introduction to Cell Biology (COM) Credits: 3
- BIOL 204L - Introduction to Cell Biology Lab (COM) Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 290 - Seminar (COM) Credits: 1
- BIOL 326 - Biomedical Physiology Credits: 3
- BIOL 326L - Biomedical Physiology Lab Credits: 1
- MICR 233 - Introductory Microbiology Credits: 3
- MICR 233L - Introductory Microbiology Lab Credits: 1

Chemistry

- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods - Biochemistry Credits: 1

Mathematics

- MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4 and MATH 123L - Calculus I Lab (COM) [HSDC] Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Physics

- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1

Additional Coursework

- PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3

Pre-Genetic Counseling

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-genetic counseling curriculum is designed to be compatible with many different majors. Because the requirements for genetic counseling programs may vary considerably, it is difficult to provide a complete listing of the necessary coursework that would satisfy every institution. Instead, SDSU pre-genetic counseling program was designed to challenge and prepare students for the rapidly growing and developing field of genetic counseling. Students who apply to genetic counseling programs must demonstrate a strong science background, and an understanding of communications, social sciences, and humanities.

Genetic Counseling Professional Program Admission

Admission to Genetic Counseling programs is highly competitive. After completing a bachelor's degree, students apply to an accredited master's program in genetic counseling, which lasts approximately 2 years.

Suggested Majors

- Human Biology (B.S.)
- Biology (B.S.)
- Biochemistry (B.S.)
- Chemistry - ACS Certified (B.S.)
- Psychology (B.A./B.S.)

Suggested Coursework

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 202 - Genetics and Molecular Biology Credits: 3
- BIOL 202L - Genetics and Molecular Biology Lab Credits: 1
- BIOL 204 - Introduction to Cell Biology (COM) Credits: 3
- BIOL 204L - Introduction to Cell Biology Lab (COM) Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3

- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 465 - Biochemistry II (COM) Credits: 3
- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Additional Supporting Coursework

- BIOL 470 - Cancer Biology (COM) Credits: 3
- BIOL 483 - Developmental Biology (COM) Credits: 3
- BIOL 483L - Developmental Biology Lab (COM) Credits: 1
- CHRD 451 - Individual and Group Counseling Credits: 3
- MICR 448 - Molecular and Microbial Genetics Credits: 4
- PSYC 358 - Behavior Modification Credits: 3
- SOC 283 - Working with Diverse Populations Credits: 3

Pre-Law

Program Coordinator/Contact

Lisa Hager, Associate Professor of Political Science
School of American and Global Studies
Lincoln Hall 325, Box 2212
605-688-5343

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.

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.)
- Criminology (B.A./B.S.)
- Economics (B.A./B.S.)
- English (B.A./B.S.)
- 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.)

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 economics or 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.

Pre-Medicine

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-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 - ACS Certified (B.S.)
- Microbiology (B.S.)
- Nutrition and Dietetics (B.S.)
- Psychology (B.A./B.S.)
- Physics (B.S.)

Suggested Coursework

Biology

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 202 - Genetics and Molecular Biology Credits: 3
- BIOL 202L - Genetics and Molecular Biology Lab Credits: 1
- BIOL 204 - Introduction to Cell Biology (COM) Credits: 3
- BIOL 204L - Introduction to Cell Biology Lab (COM) Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 326 - Biomedical Physiology Credits: 3
- BIOL 326L - Biomedical Physiology Lab Credits: 1
- MICR 233 - Introductory Microbiology Credits: 3
- MICR 233L - Introductory Microbiology Lab Credits: 1

Chemistry

- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3

- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods - Biochemistry Credits: 1

Mathematics

- MATH 121 - Survey of Calculus (COM) [SGR #5, HSDC] Credits: 4 and MATH 121L - Survey of Calculus Lab [HSDC] Credits: 1 or MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4 and MATH 123L - Calculus I Lab (COM) [HSDC] Credits: 1
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Physics

- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1

Additional Coursework

- BIOL 290 - Seminar (COM) Credits: 1
- PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3

Pre-Ministerial

Program Coordinator/Contact

A. James Murphy, Associate Professor of Religion
School of American and Global Studies
Lincoln Hall 131, Box 2212
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./B.S.)
- History (B.A./B.S.)
- Human Development and Family Science (B.S.)
- Interdisciplinary Studies (B.A./B.S.)
- Psychology (B.A./B.S.)
- Sociology (B.A./B.S.)

Suggested Coursework

The coordinator will work with students individually to build a plan of study based upon the student's career goals. Typically, this involves combining the religion minor and a declared major with a limited number of additional selections from the following list:

- CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] Credits: 3
- CMST 215 - Public Speaking (COM) [SGR #2, HSDC] Credits: 3
- CMST 281 - Speech and Debate Activities (COM) Credits: 1-4
- CMST 311 - Business and Professional Communication (COM) Credits: 3
- CMST 410 - Organizational Communication (COM) Credits: 3
- CMST 416 - 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, HSDC] Credits: 3
- PHIL 200 - Introduction to Logic (COM) [SGR #4, HSDC] Credits: 3
- PHIL 215 - Introduction to Social-Political Philosophy (COM) [SGR #4, HSDC] Credits: 3
- PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] 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, HSDC] Credits: 3
- REL 224 - Old Testament [SGR #4, HSDC] Credits: 3
- REL 225 - New Testament (COM) [SGR #4, HSDC] Credits: 3
- REL 238 - Native American Religions [SGR #4, HSDC] Credits: 3
- REL 250 - World Religions (COM) [SGR #4, HSDC] 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

Teresa Pederson, Coordinator and Advisor
Department of Biology and Microbiology
Alfred Dairy Science Hall 225F
605-688-4563

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 covers a wide range of areas, he/she must draw upon knowledge from the social and economic fields, as well as the scientific and artistic domains, to meet the technical demands of the profession.

Contact the program coordinator for information related to admission requirements for Mortuary Science Schools.

Suggested Majors

- Human Biology (B.S.)

Suggested Coursework

Freshman Year

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC] Credits: 3
- CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC] Credits: 1
- CMST 101 - Foundations of Communication (COM) [SGR #2, HSDC] Credits: 3
- ENGL 101 - Composition I (COM) [SGR #1, HSDC] Credits: 3
- MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- REL 238 - Native American Religions [SGR #4, HSDC] Credits: 3 or REL 250 - World Religions (COM) [SGR #4, HSDC] Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3
- Social Science Elective Credits: 3

Sophomore Year

- Social Science Elective Credits: 3
- Electives Credits: 9

Suggested Courses:

- CMST 470 - Intercultural Communication (COM) Credits: 3

- ENGL 201 - Composition II (COM) [SGR #1, HSDC] Credits: 3
- LDR 435 - Organizational Leadership and Team Development Credits: 3
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- BLAW 350 - Legal Environment of Business (COM) Credits: 3
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- CMST 201 - Interpersonal Communication (COM) [SGR #3, HSDC] Credits: 3
- HSC 443 - Public Health Science Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- MICR 231 - General Microbiology (COM) [SGR #6, HSDC] Credits: 3
- MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC] Credits: 1

Pre-Occupational Therapy

Program Coordinator/Contact

Carla Anderson, Coordinator of Student Services
School of Health and Human 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 Human 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.)
- Health Studies (B.S.)
- Human Biology (B.S.)
- Human Development and Family Science (B.S.)
- Psychology (B.A./B.S.)
- Sociology (B.A./B.S.)

Suggested Coursework

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- NURS 201 - Medical Terminology Credits: 1
- PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] 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, HSDC] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3 or SOC 150 - Social Problems (COM) [SGR #3, HSDC] Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Pre-Optometry

Program Coordinator/Contact

Teresa Pederson, Coordinator and Advisor
Department of Biology and Microbiology
Alfred Dairy Science Hall 225F
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 - ACS Certified (B.S.)
- Microbiology (B.S.)
- Physics (B.S.)
- Health Studies (B.S.)
- Economics (B.A./B.S.)

Suggested Coursework

Biology

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 202 - Genetics and Molecular Biology Credits: 3
- BIOL 202L - Genetics and Molecular Biology Lab Credits: 1
- BIOL 204 - Introduction to Cell Biology (COM) Credits: 3
- BIOL 204L - Introduction to Cell Biology Lab (COM) Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 290 - Seminar (COM) Credits: 1
- BIOL 326 - Biomedical Physiology Credits: 3
- BIOL 326L - Biomedical Physiology Lab Credits: 1
- MICR 233 - Introductory Microbiology Credits: 3
- MICR 233L - Introductory Microbiology Lab Credits: 1

Chemistry

- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1

- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 465 - Biochemistry II (COM) Credits: 3

Mathematics

- MATH 123 - Calculus I (COM) [SGR #5, HSDC] Credits: 4
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Nursing

- NURS 201 - Medical Terminology Credits: 1

Physics

- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1

Psychology

- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3

Additional Coursework

- PHIL 220 - Introduction to Ethics (COM) [SGR #4, HSDC] Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3

Pre-Physical Therapy

Program Coordinator/Contact

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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 Human 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.)
- Health Studies (B.S.)
- Human Biology (B.S.)
- Human Development and Family Science (B.S.)
- Nutrition and Dietetics (B.S.)
- Psychology (B.A./B.S.)

Suggested Coursework

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 325 - Physiology (COM) Credits: 3
- BIOL 325L - Physiology Lab (COM) Credits: 1
- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] Credits: 3
- NURS 201 - Medical Terminology Credits: 1

- PHTH 142 - Introduction to Physical Therapy and Occupational Therapy Credits: 1
- PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3
- PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
- PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3
- PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Pre-Physician Assistant

Program Coordinator/Contact

Teresa Pederson, Coordinator and Advisor
Department of Biology and Microbiology
Alfred Dairy Science Hall 225F
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 - ACS Certified (B.S.)
- Microbiology (B.S.)
- Exercise Science (B.S.)
- Nutrition and Dietetics (B.S.)
- Psychology (B.A./B.S.)

Suggested Coursework

Biology

- BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
- BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
- BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
- BIOL 202 - Genetics and Molecular Biology Credits: 3
- BIOL 202L - Genetics and Molecular Biology Lab Credits: 1
- BIOL 221 - Human Anatomy (COM) Credits: 3
- BIOL 221L - Human Anatomy Lab (COM) Credits: 1
- BIOL 290 - Seminar (COM) Credits: 1
- BIOL 326 - Biomedical Physiology Credits: 3
- BIOL 326L - Biomedical Physiology Lab Credits: 1

Chemistry

- CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
- CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1

- CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
- CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
- CHEM 326 - Organic Chemistry I (COM) Credits: 3
- CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
- CHEM 328 - Organic Chemistry II (COM) Credits: 3
- CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods - Biochemistry Credits: 1

Microbiology

- MICR 233 - Introductory Microbiology Credits: 3
- MICR 233L - Introductory Microbiology Lab Credits: 1
- MICR 439 - Medical and Veterinary Immunology Credits: 3

Psychology

- PSYC 101 - General Psychology (COM) [SGR #3, HSDC] Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior (COM) Credits: 3

Statistics

- STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3

Additional Coursework

- HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC] 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, HSDC] Credits: 3
- SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC] Credits: 3

Pre-Veterinary Medicine

Program Contact/Coordinator

David Knudsen, Professor
 Department of Veterinary and 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

- AS 332 - Livestock Breeding and Genetics Credits: 4
 - BIOL 151 - General Biology I (COM) [SGR #6, HSDC] Credits: 3
 - BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC] Credits: 1
 - BIOL 153 - General Biology II (COM) [SGR #6, HSDC] Credits: 3
 - BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC] Credits: 1
 - CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC] Credits: 3
 - CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC] Credits: 1
 - CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC] Credits: 3
 - CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC] Credits: 1
 - CHEM 326 - Organic Chemistry I (COM) Credits: 3
 - CHEM 326L - Organic Chemistry I Lab (COM) Credits: 1
 - CHEM 328 - Organic Chemistry II (COM) Credits: 3
 - CHEM 328L - Organic Chemistry II Lab (COM) Credits: 1
 - CHEM 464 - Biochemistry I (COM) Credits: 3
 - MATH 114 - College Algebra (COM) [SGR #5, HSDC] Credits: 3
 - MICR 233 - Introductory Microbiology Credits: 3
 - MICR 233L - Introductory Microbiology Lab Credits: 1
 - PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC] Credits: 3
 - PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC] Credits: 1
 - PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC] Credits: 3
 - PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC] Credits: 1
 - STAT 281 - Introduction to Statistics (COM) [SGR #5, HSDC] Credits: 3
 - VET 223 - Anatomy and Physiology of Domestic Animals Credits: 3
 - VET 223L - Anatomy and Physiology of Domestic Animals Lab Credits: 1
 - 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.



Course Information

Course Descriptions

ENGL¹ 283² Introduction to Creative Writing³ (COM)⁴ [SGR #1⁵, HSDC⁶]
Credits: 3⁷

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 101.⁸

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. Approved High School Dual Credit (HSDC) course.
7. 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.
8. 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 2.4.2)

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 2.4.3.A)

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; that is, progression is controlled by the student, not the faculty member.
- 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.

Discussion

- Communication between faculty member and students is two-way; all are participants who actively share experiences, ideas, viewpoints, and feedback. Depth of information sharing surpasses ordinary question and answer sessions.
- Designed to stimulate thinking and interest, this method is particularly relevant when subject matter is subjective, controversial, and/or multi-faceted.
- Student involvement is strong; it entails conversation, dialogue, and/or debate.
- Enrollment maximum is typically 35 students.

Experiential

- This course entails discovery learning in a specified area or discipline; through dedicated participation, students derive personal understanding and attach 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

- Format is distinctive and individualized; content is tailored to the student(s) and particular situation.
- Intended for unique learning experiences outside of established courses.
- 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.
- Placed in real-world environments of chosen professions, students strongly engage; involvement is memorable and impactful.
- In pursuit of relevant, discipline-based experience, each student follows a prearranged plan of study and benefits from skilled mentoring.
- Such experience may or may not be associated with payment of wages.
- Enrollment is variable, depending on need.

Laboratory

- Face-to-face course instruction takes place in a specialized physical setting – that is, the laboratory. Online instruction is tailored to the situation and entails a simulated laboratory environment.
- Laboratory experience complements lecture; instruction reinforces concepts presented in lecture through hands-on application.
- Enrollment maximum varies, but typically does not exceed 25.

Lecture

- The learning environment is highly structured; course content is largely rooted in facts, principles, ideas, and theory.
- Communication is very straightforward and primarily one-way; the faculty member formally relays information, while students listen.
- This format is particularly relevant to situations in which student knowledge of subject matter is very limited.
- Classes can be sizable; enrollment maximums – which widely vary – depend on course level, discipline, and university preference.

Lecture-Lab Combination

- Relevant to instructional situations that feature seamless melding of lecture and laboratory activities (as defined by methods R and L). The lecture and laboratory components are streamlined into a single section.
- Due to the seamless presentation of course content, the totality of instruction typically occurs in a single learning space on the same days/time frames.
- In cases where traditional course situations (comprised of both lecture and laboratory components linked as corequisites) transition to instructional method K, the laboratory course is inactivated, and the lecture course moves forward as the integration.
- For such situations, Laboratory is not included in course title; L is not used in course numbering.

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).

Orientation

- This course is designed to bolster navigational success (collegiate and/or programmatic); content facilitates optimal student acclimation and promotes informed decision making.
- Content is grounded in practical concepts associated with general collegiate life or specific professional discipline. This focus is reinforced by opportunities of expeditionary learning and interactions with guest speakers.
- Learning is highly hands-on with strong student engagement. The faculty member of record functions as a coordinator/mentor who offers support and encourages exploration.

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, one-to-one training; common examples include music performance and flight instruction.
- Course content is consistent with prescribed learning outcomes; it is not negotiable, but rather, inherent to the course.

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 courses that focus on either research methods (grounded in theory) or research proposal development; nor is it intended for graduate thesis/dissertation courses.

Seminar

- This course is highly focused and topical with strong, direct faculty-student interaction.
- Instruction 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 workstations, 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

- Intended for fine arts courses held in a specialized studio environment which is precisely and intentionally geared to the nature of course (for example, dance studio).
- Course presentation and student participation is contingent upon the special studio; no other learning venue will suffice.
- Course content demands significant one-to-one student/instructor interaction; the course is very hands-on with extensive student engagement.

Thesis

- A formal treatise presenting the results of study, which is submitted in partial fulfillment of the student's program 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 SDBOR 2.8.1) must be assigned.

Tracking

- Utilized for 0-credit place holding pseudo courses; EXCH 489 presents a common example; it is used for students participating in international exchange programs.
- Enrollment assures retention of active student status for the current term.
- Intended usage is narrow and precise.

Travel Study

- Intended for a travel experience that is structured, academic, and university-sponsored with clearly established, on-site 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, the workshop focuses on a specific, narrowly tailored topic of current interest and professional relevance.
- The workshop is restricted to graduate level instruction; in rare instances, 300/400-level undergraduate instruction is allowed; this scenario requires special approval from the system Vice-President of Academic Affairs.
- For each earned credit, 45 hours of student work is required.
- No more than 3 graduate credit hours in any graduate program can be a workshop (see SDBOR Policy 2.4.2).

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 2.4.1.A)

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	x96	Field Experience
x91	Independent Study	x97	Cooperative Education
x92	Topics	498	Research
393 through 893	Workshop	788	Research Problems/Projects
x94	Internship	798	Thesis
x95	Practicum	898D	Dissertation

x90 Seminar

A highly focused and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research.

x91 Independent Study

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.

x92 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.

393 through 893 Workshop

Special, intense sessions in specific topic areas. 45 hours of student work is required for each hour of credit earned. 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. No more than 3 graduate credit hours in any graduate program can be a workshop (see Board Policy 2.4.2).

x94 Internship

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.

x95 Practicum

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.

x96 Field Experience

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.

x97 Cooperative Education

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.

498 Research

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.

788 Research Problems/Projects

Independent research problems/ projects that lead to research or design paper, but not to a thesis. The plan of study is negotiated by the faculty member and the candidate. Contact between the two may be extensive and intensive.

798 Thesis

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 professor with more limited interaction between and among the candidate and other members of the committee.

898D Dissertation

A formal dissertation 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 professor with more limited interaction between and among the candidate and other members of the committee. For this structure D reflects doctoral degree; S reflects specialist degree.

Search for Class Sections

- Browse Classes

Contact Information:

Registrar's Office
Enrollment Services Center (SESC)
PO Box 511
605-688-6195

- Continuing Education

Course Descriptions

ABE (Agricultural and 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 234 - Digital Tools for Agricultural and Biosystems Engineering

Credits: 3

This course provides a practical hands-on working knowledge of digital tools utilized in modern engineering practice to collect, analyze and process data sets for engineering and technical analysis. The course will utilize basic and advanced components of the Excel and MATLAB software packages. Students will be introduced to basic sensor and data acquisition methods in the agricultural and biosystems engineering field.

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.

ABE 314 - Ag Power and Machines

Credits: 3

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.

ABE 314L - Ag Power and Machines Lab

Credits: 1

Laboratory to accompany ABE 314.

Corequisites: ABE 314.

ABE 324 - Ag Structures and Indoor Environment

Credits: 3

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: Completion or concurrent registration in ME 314 and EM 331.

Corequisites: ABE 324L.

ABE 324L - Ag Structures and Indoor Environment Lab

Credits: 1

Laboratory to accompany ABE 324.

Corequisites: ABE 324.

ABE 343 - Engineering Properties of Biological Materials

Credits: 2

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.

ABE 343L - Engineering Properties of Biological Materials Lab

Credits: 1

Laboratory to accompany ABE 343.

Corequisites: ABE 343.

ABE 350 - Hydraulic Systems

Credits: 2

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 valves and closed-loop control in hydraulic circuits.

Corequisites: ABE 350L and (ME 311 or ME 314).

ABE 350L - Hydraulic and Pneumatic Systems Lab

Credits: 1

Laboratory to accompany ABE 350.

Corequisites: ABE 350.

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.

Registration Restriction: 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.

Registration Restriction: Senior standing.

ABE 434 - Natural Resources Engineering

Credits: 3

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.

Prerequisites: Completion or concurrent registration in EM 331.

Corequisites: ABE 434L.

ABE 434L - Natural Resources Engineering Lab

Credits: 1

Laboratory to accompany ABE 434.

Corequisites: ABE 434.

ABE 444 - Unit Operations of Biological Materials Processing

Credits: 3

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, reverse osmosis), mechanical separation processes, extrusion.

Registration Restriction: Senior standing or consent.

Corequisites: ABE 444L.

ABE 444L - Unit Operations of Biological Materials Processing Lab

Credits: 1

Laboratory to accompany ABE 444.

Corequisites: ABE 444.

ABE 463 - Instrumentation for Agricultural and Biological Systems

Credits: 2

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.

ABE 463L - Instrumentation for Agricultural and Biological Systems Lab

Credits: 1

Laboratory to accompany ABE 463.

Corequisites: ABE 463.

ABE 464 - Monitoring and Controlling Agriculture and Biological Systems

Credits: 1

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 (PLC).

Prerequisites: ABE 463.

Corequisites: ABE 464L.

ABE 464L - Monitoring and Controlling Agriculture and Biological Systems Lab

Credits: 1

Laboratory to accompany ABE 464: Monitoring and Controlling Agriculture and Biological Systems.

Prerequisites: ABE 463.

Corequisites: ABE 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.

ABE 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.

ABE 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.

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 - Research (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.

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 360 - Accounting Systems (COM)

Credits: 3

Provides an understanding of the patterns of flow of accounting information in business, principles of internal control, and the use of computers in current and future accounting systems. Topics include concepts of accounting information systems, flowcharting and analysis of manual and computerized transaction cycles, decision support systems, electronic commerce, management reporting systems, control and audit of complex computerized information systems, and the development of accounting information systems.

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 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.

ACCT 491 - Independent Study (COM)

Credits: 1-4

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.

ACCT 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.

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.

ACS (Academic and Career Success)

ACS 102 - Exploratory Studies

Credits: 2

This course provides guidance for students exploring options for their major, minor, and future career. The course assists students with decision-making in the major selection process by completing assessments based on personal and work values. Guest speakers from different programs are invited to discuss degree options, campus involvement and career opportunities.

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

This course is designed to holistically support and assist students in transitioning to the university. Students will identify their strengths and learn techniques for goal setting and academic success. Online, campus, and community resources are shared, and students receive guidance in academic planning, campus engagement, time and financial management, wellness topics, and other contemporary issues consistent with the mission of the university.

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

This interactive course is designed to enhance learning skills for success in the college environment and throughout life. Students complete assessments to understand their learning style and techniques for maximizing their learning environment. Lifelong learning skills topics such as organization, time management, critical thinking, and study habits are discussed in this course.

ACS 219 - Transition Year Seminar

Credits: 2

This course is designed to holistically support and assist transfer and non-traditional students. Students will identify their strengths and learn techniques for goal setting and academic success. Online, campus, and community resources are shared and students receive guidance in academic planning, campus engagement, time and financial management, wellness topics, and other contemporary issues consistent with the mission of the university.

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.

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 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 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.

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.

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 - Advertising Copy and Design (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 or MCOM 370.

ADV 372 - Advertising Media Strategies

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.

Prerequisites: ADV 370.

Registration Restriction: Junior or Senior standing.

ADV 411 - Media Analytics

Credits: 3

Students will gain an understanding of industry trends, terminology, planning, and measurement models related to traditional, social and emerging media environments.

Registration Restriction: Junior or Senior standing.

Cross-Listed: PUBR 411.

ADV 442 - Integrated Marketing Communication and Campaigns (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.

Cross-Listed: PUBR 442.

Notes: ADV 442 and PUBR 442 are equivalent courses. Students cannot repeat the course for additional credit.

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.

Notes: ADV 472 and PUBR 472 are equivalent courses. Students cannot repeat the course for additional credit.

ADV 476 - 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 491 - Independent Study (COM)

Credits: 1-4

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.

ADV 492 - Topics (COM)

Credits: 1-5

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.

ADV 498 - Research (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.

AFES (Agriculture, Food and Environmental Sciences)

AFES 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.

AFES 203 - Global Food Systems [SGR #3, HSDC]

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.

Notes: Course meets SGR #3.

AFES 263 - History of U.S. and World Agriculture [HSDC]

Credits: 3

This course is an introduction to the history of agriculture around the world. The course will explore the beginnings of agriculture in the Fertile Crescent some 7,000 years ago and the expansion of agriculture to the Asia-Pacific, Europe, and all corners of the globe. Topics covered will include the development of crops and livestock systems, agricultural practices, land use and exploitation, experimentation, technological innovations, and the culture associated with agriculture in various countries.

AFES 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.

AFES 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.

AFES 481 - Domestic Agricultural Travel Experience

Credits: 1-4

This travel study course is designed to provide extramural 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. Includes pre-travel coursework and post-travel reflection.

AFES 482 - International Agricultural Travel Experience

Credits: 1-4

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. AFES 203 is recommended.

AFES 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.

AFES 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.

AFES 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 (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.

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

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.

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 Innovative Digital 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 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 Innovative Digital 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 Innovative Digital 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 430 - 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: AGECE 354 and STAT 281.

AGEC 440 - 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.

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: AGECE 354.

AGEC 457 - 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.

AGEC 462 - 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.

Notes: Sections of this course are provided online through the Innovative Digital Education Alliance.

AGEC 471 - Advanced Farm and 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: AGECE 271 or ACCT 210.

AGEC 472 - 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.

AGEC 473 - Rural Real Estate Appraisal

Credits: 2

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.

Registration Restriction: Junior standing.

Corequisites: AGECE 473L.

AGEC 473L - Rural Real Estate Appraisal Lab

Credits: 1

Laboratory to accompany AGECE 473.

Registration Restriction: Junior standing.

Corequisites: AGECE 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 - 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 Innovative Digital Education Alliance.

AGEC 484 - Trading in Commodity Futures and Options

Credits: 3

This course utilizes fundamental and technical analysis techniques to analyze commodity futures and options. This is a hands-on commodity trading class. Students will analyze selected agricultural and other commodity markets, generate trading proposals, and initiate, manage, and close positions in commodity futures and options markets.

Prerequisites: AGECE 354.

AGEC 485 - 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. Registration Restriction: Senior standing in Agricultural Business (B.S.) or Economics (B.S.) - Agricultural Economics Specialization.

AGEC 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.

AGEC 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.

AGEC 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.

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 - Research (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.

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 305 - 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. Registration Restriction: Sophomore status in education program.

Corequisites: AGED 295.

Cross-Listed: FCSE 305.

Notes: For prospective teachers in agriculture or family and consumer sciences education.

AGED 401 - 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 - Methods in Agricultural Education

Credits: 3

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. This course includes integrated field experiences that provide students with the opportunity to apply the skills they have learned in practical settings.

Prerequisites: AGED 305.

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 431 - Work Based Learning

Credits: 2

In this course the student will learn the importance of work-based learning programs, establish communication skills that include community needs into student programming, and develop curriculum for a complete work-based learning program.

Cross-Listed: FCSE 431.

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. Registration Restriction: 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

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.

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.

AHSS (Arts, Humanities and 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.

AHSS 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.

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 - The Foundations of the US Air Force

Credits: 1

A survey course designed to introduce students to the Department of the Air Force (DAF) and provide an overview of the basic characteristics, missions, communication practices and organization of the US Air Force and US Space Force. Topics include Air Force and Space Force core values, leadership, military customs and courtesies, and the history and evolution of the of the DAF.

Corequisites: AIR 101L.

AIR 101L - The Foundations of the US Air Force Lab

Credits: 0

Lab for AIR 101.

Corequisites: AIR 101.

AIR 102 - The Foundations of the US Air Force

Credits: 1

Continues the Department of the Air Force (DAF) introduction begun in AIR 101, providing an overview of the basic characteristics, missions, communication practices and organization of the US Air Force and US Space Force. Topics include the fundamentals of warfare, the tenets of air power, and the principles of joint operations, as well as an introduction to Air Force and Space Force career fields.

Corequisites: AIR 102L.

AIR 102L - The Foundations of the US Air Force Lab

Credits: 0

Lab for AIR 102.

Corequisites: AIR 102.

AIR 201 - Team and Leadership Fundamentals I

Credits: 1

Provides a fundamental understanding of the concepts of leadership and team building. Topics include ethical decision-making, self-assessment, effective listening, the full-range leadership model, followership, taking initiative, and team building.

Corequisites: AIR 201L.

AIR 201L - Team and Leadership Fundamentals I Lab

Credits: 0

Laboratory to accompany AIR 201.

Corequisites: AIR 201.

AIR 202 - Team and Leadership Fundamentals II

Credits: 1

Builds on the fundamentals taught in AIR 201 to use leadership and team building skills in practical applications. Topics include problem solving, critical thinking, accountability, and stress management.

Corequisites: AIR 202L.

AIR 202L - Team and Leadership Fundamentals II Lab

Credits: 0

Laboratory to accompany AIR 202.

Corequisites: AIR 202.

AIR 301 - Air Force Leadership Studies

Credits: 3

Provides in-depth exploration of the concept of leadership. Special emphasis is placed on enhancing communication skills and the relevance of communication in effective leadership. Topics include public affairs & the media, Department of the Air Force writing, establishing expectations, operations security, corrective supervision and counseling, and creative thinking.

Corequisites: AIR 301L.

AIR 301L - Air Force Leadership Studies Lab

Credits: 0

Lab for AIR 301.

Corequisites: AIR 301.

AIR 302 - Air Force Leadership Studies

Credits: 3

Builds on the lessons introduced in AIR 301. Topics include creating a positive organizational climate, mentoring, leading diverse organizations, individual motivation, culture and gender in military operations, change management, conflict management, critical thinking, and ethical decision-making.

Corequisites: AIR 302L.

AIR 302L - Air Force Leadership Studies Lab

Credits: 0

Lab for AIR 302.

Corequisites: AIR 302.

AIR 401 - National Security Affairs/Preparation for Active Duty

Credits: 3

Designed to provide seniors the foundation to understand their role as military officers, this course is an overview of the complex issues facing those in the military profession. Topics include the US Constitution, national security policy, the organization of the Department of Defense and the Armed Forces, the law of war, nuclear operations, space operations, and cyberspace operations.

Corequisites: AIR 401L.

AIR 401L - National Security Affairs/Preparation for Active Duty Lab

Credits: 0

Lab for AIR 401.

Corequisites: AIR 401.

AIR 402 - National Security Affairs/Preparation for Active Duty

Credits: 3

Building on the national security fundamentals established in AIR 401, this course prepares prospective lieutenants for the practical leadership challenges they will face on active duty in the Air Force or Space Force. Topics include the commission and the oath of office, leadership authority and responsibility, the enlisted force, officer career progression, military justice, and ethical decision-making.

Corequisites: AIR 402L.

AIR 402L - National Security Affairs/Preparation for Active Duty Lab

Credits: 0

Lab for AIR 402.

Corequisites: AIR 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.

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, HSDC]

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, HSDC]

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, HSDC]

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, HSDC]

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, HSDC]

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 240 - Contemporary Indigenous Issues

Credits: 3

A deeper exploration of topic areas that impact American Indian and global Indigenous communities while promoting community-driven sustainable initiatives and practices. Course content varies to accommodate current issues but may include tribal sovereignty, murdered and missing Indigenous people, media representation, environmental justice, kinship and community building, and cultural paths to health and wellness.

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.

AIS 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.

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 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 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.

AIS 412 - Cultural Issues in Mass Communication

Credits: 3

From the perspectives of media creator, audience and source, this course uses a decolonizing lens to examine the ways culture impacts strategic storytelling and representation.

Cross-Listed: MCOM 412.

AIS 419 - World Environmental History (COM)

Credits: 3

Examines the history of interactions between human cultures and the natural world from the 1400s to the present day.

Cross-Listed: HIST 419.

AIS 420 - Indigenous Media: Rising Voices in Digital Storytelling

Credits: 3

A deep dive into the works of Indigenous filmmakers, journalists, artists, bloggers, influencers and pop culture creators. The course focuses on the growth of the Native media industry, its influence on Native and non-Native publics and discourses, and the future of Indigenous storytelling.

Cross-Listed: MCOM 420.

AIS 430 - 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 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.

AIS 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.

AIS 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.

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.

AIS 498 - Research (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.

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, HSDC]

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 - 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.

ANTH 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.

ANTH 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.

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 230 - Design Material and Assembly

Credits: 2

An introduction to interdisciplinary design-related economic, logistic, energy, and aesthetic factors that inform decision making in the selection and documentation of materials and assembly methods in the built-environment professions: landscape architecture, architecture, and interior design.

Corequisites: ARCH 230L.

ARCH 230L - Design Material and Assembly Lab

Credits: 1

Lab to accompany ARCH 230.

Corequisites: ARCH 230.

ARCH 241 - Construction History [SGR #4, HSDC]

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 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 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 292 - Topics (COM)

Credits: 2-3

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.

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 - 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.

ARCH 402 - 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 432 - Technology of Surroundings

Credits: 2

Lecture and field work in urban design practices, environmental responsibilities, and the implementation of site design technologies.

ARCH 433 - 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.

ARCH 434 - 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.

ARCH 442 - 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 - 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 454 - 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 - 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 - 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 - 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 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.

ARCH 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.

ART (Art)

ART 111 - Drawing I (COM) [SGR #4, HSDC]

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, HSDC]

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, HSDC]

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, HSDC]

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.

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

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.

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.

Registration Restriction: 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.

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

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.

ART 492 - 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.

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.

ARTE (Art Education)

ARTE 414 - K-12 Art Methods (COM)

Credits: 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

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.

ARTH (Art History)

ARTH 100 - Art Appreciation (COM) [SGR #4, HSDC]

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 211 - History of World Art I (COM) [SGR #4, HSDC]

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, HSDC]

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.

ARTH 492 - 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.

AS (Animal Science)

AS 101 - Introduction to Animal Science

Credits: 3

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.

Notes: Fall and Spring, Fall restricted to freshman standing.

AS 101L - Introduction to Animal Science Lab

Credits: 1

Laboratory to accompany AS 101.

Corequisites: AS 101.

Notes: Fall and Spring, Fall restricted to freshman standing.

AS 102 - Fundamentals of Animal Science [HSDC]

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 - Introduction to Horse Management

Credits: 2

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.

Corequisites: AS 104L.

Notes: Fall.

AS 104L - Introduction to Horse Management Lab

Credits: 1

Laboratory sessions will include involvement with the SDSU Horse Unit's activities and field trips to nearby facilities.

Corequisites: AS 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 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: Completion or concurrent registration in AS 101.

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.

Registration Restriction: Junior or Senior 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: Fall and Spring. Sections of this course are provided online through the Innovative Digital Education Alliance.

AS 211 - 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.

Registration Restriction: Junior standing or higher and instructor permission.

Notes: 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 231 - Introduction to Bison Management

Credits: 3

The introductory course provides the foundations of bison management and production theory. This course will focus on the discussion of various principles that are necessary to understand before utilizing field work in relation to bison.

Prerequisites: (AS 101 and AS 101L) or WL 220.

Notes: Spring.

AS 241 - Introduction to Meat Science

Credits: 2

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.

Corequisites: AS 241L.

Notes: Fall and Spring.

AS 241L - Introduction to Meat Science Lab

Credits: 1

Hands-on carcass fabrication and meat processing.

Corequisites: AS 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 - Livestock Evaluation and Marketing

Credits: 2

Live and carcass evaluation of market animals. Methods of marketing and pricing livestock and carcasses.

Prerequisites: AS 101.

Corequisites: AS 285L.

Notes: Fall and Spring.

AS 285L - Livestock Evaluation and Marketing Lab

Credits: 1

Laboratory to accompany AS 285.

Corequisites: AS 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: Spring. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Fall. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Fall. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Spring. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Fall. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Spring. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Spring and Summer. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Spring and Summer. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Summer. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Fall. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Spring. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Spring. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Spring. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Summer. Sections of this course are provided online through the Innovative Digital Education Alliance.

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: Spring. Sections of this course are provided online through the Innovative Digital Education Alliance.

AS 319 - Livestock Feeds and Feeding

Credits: 2

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.

Notes: Fall and Spring.

AS 319L - Livestock Feeds and Feeding Lab

Credits: 1

Laboratory to accompany AS 319.

Corequisites: AS 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 or BIOL 151).

Notes: Fall and Spring.

AS 333 - Livestock Reproduction

Credits: 2

Basic physiological processes of reproduction in domestic animals, factors affecting and methods of improving reproductive efficiency.

Prerequisites: VET 223.

Corequisites: AS 333L.

Notes: Fall.

AS 333L - Livestock Reproduction Lab

Credits: 1

Laboratory to accompany AS 333.

Corequisites: AS 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: Completion or concurrent registration in AS 104.

Notes: Even Fall.

AS 376 - Performance Horse Management

Credits: 3

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.

Registration Restriction: 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 431 - Advanced Bison Production

Credits: 3

An in-depth course focusing on bison management and production techniques specific to bison. Intensive, governmental, and tribal production systems will be thoroughly explored.

Prerequisites: AS 231.

Registration Restriction: Junior or senior standing only.

Notes: Fall.

AS 441 - 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 - Value-Added Meat Products

Credits: 2

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.

Notes: Fall.

AS 445L - Value-Added Meat Products Lab

Credits: 1

Laboratory to accompany AS 445L.

Corequisites: AS 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 - Cow/Calf Management

Credits: 2

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.

Notes: Fall and Spring.

AS 474L - Cow/Calf Management Lab

Credits: 1

Laboratory to accompany AS 474.

Corequisites: AS 474.

Notes: Fall and Spring.

AS 475 - Feedlot Operations and Management

Credits: 2

Management principles of feedlot productions. Student participation in management techniques of feedlot operations. Feeding, health and personnel management issues will be discussed.

Prerequisites: AS 285 and AS 319.

Corequisites: AS 475L.

Notes: Fall.

AS 475L - Feedlot Operations and Management Lab

Credits: 1

Laboratory to accompany AS 475.

Corequisites: AS 475.

Notes: Fall.

AS 476 - Horse Production

Credits: 2

Feeding, breeding and management principles for horses.

Prerequisites: AS 319; AS 333 or AS 334-334L; and AS 332.

Corequisites: AS 476L.

Notes: Spring.

AS 476L - Horse Production Lab

Credits: 1

Laboratory to accompany AS 476.

Corequisites: AS 476.

Notes: Spring.

AS 477 - Sheep and Wool Production

Credits: 2

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.

Notes: Fall.

AS 477L - Sheep and Wool Production Lab

Credits: 1

Laboratory to accompany AS 477.

Corequisites: AS 477.

Notes: Fall.

AS 478 - Swine Production

Credits: 2

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.

Notes: Spring.

AS 478L - Swine Production Lab

Credits: 1

Laboratory to accompany AS 478.

Corequisites: AS 478.

Notes: Spring.

AS 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.

Notes: Fall, Spring, and Summer.

AS 492 - 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.

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: Fall, Spring, and Summer. Sections of this course are provided online through the Innovative Digital Education Alliance.

AS 498 - Research (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.

Notes: Fall, Spring, and Summer.

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 - Construction Technology and Materials

Credits: 1

Wood and concrete building materials; efficient construction procedures; hand tools, portable and stationary power tools; safe working practices.

Corequisites: AST 202L.

AST 202L - Construction Technology and Materials Lab

Credits: 1

Laboratory to accompany AST 202.

Corequisites: AST 202.

AST 205 - Principles of Agricultural Systems Technology for Teachers

Credits: 2

Students will obtain a general working knowledge of spark ignition and compression ignition engines, electrical wiring and circuits, construction procedures, building materials, and safe working practices.

Registration Restriction: Students must be enrolled in the Agricultural Education, Communication and Leadership - Agricultural Education Specialization.

Corequisites: AST 205L.

AST 205L - Principles of Agricultural Systems Technology for Teachers Lab

Credits: 1

This course will provide hands-on lab experiences.

Registration Restriction: Students must be enrolled in the Agricultural Education, Communication and Leadership - Agricultural Education Specialization.

Corequisites: AST 205.

AST 211L - Ag and Outdoor Power for Teachers 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.

Notes: Credit not allowed for both AST 211L and AST 213-213L.

AST 213 - Ag, Industrial and Outdoor Power

Credits: 2

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.

AST 213L - Ag, Industrial and Outdoor Lab

Credits: 1

Laboratory to accompany AST 213.

Corequisites: AST 213.

AST 273 - Agricultural Computer Applications

Credits: 3

Computer applications for solving production agriculture problems. Development and application of agricultural software and data management for production agriculture applications and processes.

AST 303 - Design Management Experience

Credits: 2

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.

AST 303L - Design Management Experience Lab

Credits: 1

Laboratory to accompany AST 303.

Corequisites: AST 303.

AST 311L - Applied Electricity for Teachers Lab

Credits: 1

Basic wiring and electrical circuits. National Electric Code covering residential and farm applications.

Notes: Credit not allowed for both AST 311L and AST 342.

AST 313 - Farm Machinery Systems Management

Credits: 2

Farm machine selection and operation (including power requirements) tillage, spraying, planting, harvesting, storage, and ergonomics.

Prerequisites: PHYS 101 or PHYS 111.

Corequisites: AST 313L.

AST 313L - Farm Machinery Systems Management Lab

Credits: 1

Laboratory to accompany AST 313.

Corequisites: AST 313.

AST 333 - Soil and Water Mechanics

Credits: 2

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.

AST 333L - Soil and Water Mechanics Lab

Credits: 1

Laboratory to accompany AST 333.

Corequisites: AST 333.

AST 342 - Applied Electricity

Credits: 2

Basic wiring, electrical circuits, controls, lighting, electric motor selection and operation. National Electric Code covering residential, farm and light industrial applications.

Corequisites: AST 342L.

AST 342L - Applied Electricity Lab

Credits: 1

Laboratory to accompany AST 342.

Corequisites: AST 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.

AST 412 - Fluid Power Technology

Credits: 2

Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits.

Corequisites: AST 412L.

AST 412L - Fluid Power Technology Lab

Credits: 1

Laboratory to accompany AST 412.

Corequisites: AST 412.

AST 423 - Rural Structures

Credits: 2

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.

AST 423L - Rural Structures Lab

Credits: 1

Laboratory to accompany AST 423L.

Corequisites: AST 423.

AST 426 - Technology Applications for Precision Agriculture

Credits: 2

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.

Corequisites: AST 426L.

AST 426L - Technology Applications for Precision Agriculture Lab

Credits: 1

Laboratory to accompany AST 426.

Corequisites: AST 426.

AST 434 - Landscape Irrigation

Credits: 2

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.

AST 434L - Landscape Irrigation Lab

Credits: 1

Lab for AST 434.

Corequisites: AST 434.

AST 443 - Food Processing and Engineering Fundamentals

Credits: 2

Mechanics, refrigeration, heat transfer, instrumentation, and equipment operation as applied to materials, handling, storing, preserving, packaging and processing agricultural products.

Corequisites: AST 443L.

AST 443L - Food Processing and Engineering Fundamentals Lab

Credits: 1

Laboratory to accompany AST 443L.

Corequisites: AST 443.

AST 463 - 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.

AST 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.

AST 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.

Notes: Sections of this course are provided online through the Innovative Digital 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 - Research (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.

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.

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/school-health-human-sciences/sdsu-aviation-required-flight-charges.

AVIA 150 - Introduction to Aviation Meteorology

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.

Registration Restriction: Department permission.

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.

Prerequisites: A grade of C or better in AVIA 101, AVIA 150, and AVIA 200.

Corequisites: AVIA 171.

Notes: 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: AVIA 101 with a grade of C or better.

Registration Restriction: Instructor consent.

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/school-health-human-sciences/sdsu-aviation-required-flight-charges.

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.

Prerequisites: AVIA 170 with a grade of C or better.

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 with a grade of C or better.

Registration Restriction: 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/school-health-human-sciences/sdsu-aviation-required-flight-charges.

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.

Registration Restriction: Department permission.

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 with a grade of C or better.

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.

Registration Restriction: 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: AVIA 180 with a grade of C or better.

Registration Restriction: 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: AVIA 181 with a grade of C or better.

Registration Restriction: Instructor consent.

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/school-health-human-sciences/sdsu-aviation-required-flight-charges.

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: AVIA 370 with a grade of C or better.

Registration Restriction: 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: AVIA 372 with a grade of C or better.

Registration Restriction: 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/school-health-human-sciences/sdsu-aviation-required-flight-charges.

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.

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: AVIA 375 with a grade of C or better.

Registration Restriction: Instructor consent.

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: AVIA 470 with a grade of C or better.

Registration Restriction: Instructor consent.

AVIA 472 - Certified Flight Instructor Instrument

Credits: 1

This course prepares the flight instructor to teach students in an instrument flight environment

Registration Restriction: 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.

Registration Restriction: 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 377 with a grade of C or better and completion of or concurrent enrollment in AVIA 470 with a grade of C or better.

Registration Restriction: 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/school-health-human-sciences/sdsu-aviation-required-flight-charges.

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: Completion of or concurrent enrollment in AVIA 471 with a grade of C or better and completion of AVIA 474 with a grade of C or better.

Registration Restriction: 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/school-health-human-sciences/sdsu-aviation-required-flight-charges.

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.

Prerequisites: AVIA 450 and AVIA 470.

Registration Restriction: Senior standing.

Corequisites: AVIA 471.

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.

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) [HSDC]

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 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.

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 457 - 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: AGECE 457.

BADM 459 - Analytics (COM)

Credits: 3

This course covers essential decision models and strategic metrics that form the cornerstone of analytics with a primary focus on business applications. The course emphasizes case studies and hands-on learning so students can immediately apply the tools and techniques in their organizations. A variety of relevant topics are discussed, such as sizing, forecasting, budget allocation, profit maximization, and communicating to senior executives through data-driven presentations.

Prerequisites: BADM 220 or MATH/STAT 281.

BADM 485 - Strategic Management

Credits: 3

In this integrative senior capstone experience, focus is on the formulation and implementation of competitive strategy in both domestic and international contexts, based on an understanding of factors that influence long-term competitive advantages for businesses - including agribusinesses and small businesses - and entrepreneurial activities.

Prerequisites: (MGMT 360 or AGECE 371), BLAW 350, FIN 310, and MKTG 370.

Registration Restriction: Senior class standing.

BADM 491 - Independent Study (COM)

Credits: 1-4

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.

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.

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 - Research (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.

BIOL (Biology)

BIOL 101 - Biology Survey I (COM) [SGR #6, HSDC]

Credits: 2

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.

Corequisites: BIOL 101L.

Notes: Course meets SGR #6.

BIOL 101L - Biology Survey I Lab (COM) [SGR #6, HSDC]

Credits: 1

Laboratory experience that accompanies BIOL 101.

Corequisites: BIOL 101.

Notes: Course meets SGR #6.

BIOL 103 - Biology Survey II (COM) [SGR #6, HSDC]

Credits: 2

Study of energetics; plant growth; development and reproduction; animal structure and function. Intended for those not majoring in biology.

Corequisites: BIOL 103L.

Notes: Course meets SGR #6.

BIOL 103L - Biology Survey II Lab (COM) [SGR #6, HSDC]

Credits: 1

Laboratory experience that accompanies BIOL 103.

Corequisites: BIOL 103.

Notes: Course meets SGR #6.

BIOL 105 - Human Biology (COM)

Credits: 4

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 - General Biology I (COM) [SGR #6, HSDC]

Credits: 3

The introductory course for those majoring in biology and microbiology. Presents the concepts of cell biology, evolution, heredity, molecular genetics and ecology. Corequisites: BIOL 151L.

Notes: Course meets SGR #6.

BIOL 151L - General Biology I Lab (COM) [SGR #6, HSDC]

Credits: 1

Laboratory experience that accompanies BIOL 151.

Corequisites: BIOL 151.

BIOL 153 - General Biology II (COM) [SGR #6, HSDC]

Credits: 3

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.

Corequisites: BIOL 153L.

Notes: Course meets SGR #6.

BIOL 153L - General Biology II Lab (COM) [SGR #6, HSDC]

Credits: 1

Laboratory experience that accompanies BIOL 153.

Corequisites: BIOL 153.

Notes: Course meets SGR #6.

BIOL 198L - First Year Mentored Research Lab

Credits: 2

Guided and mentored independent research project.

BIOL 202 - Genetics and Molecular Biology

Credits: 3

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.

Prerequisites: (BIOL 103 or BIOL 153) and CHEM 114.

Corequisites: BIOL 202L.

BIOL 202L - Genetics and Molecular Biology Lab

Credits: 1

Laboratory to accompany BIOL 202.

Corequisites: BIOL 202.

BIOL 204 - Introduction to Cell Biology (COM)

Credits: 3

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.

Prerequisites: BIOL 101 or BIOL 151 or BIOL 202.

Corequisites: BIOL 204L.

Notes: One semester of Organic Chemistry is highly recommended.

BIOL 204L - Introduction to Cell Biology Lab (COM)

Credits: 1

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.

Corequisites: BIOL 204.

BIOL 210 - Human Physiology for Allied Health Professionals (COM)

Credits: 3

Lectures, laboratory work and demonstrations of human physiological processes both normal and abnormal.

BIOL 210L - Human Physiology for Allied Health Professionals Lab (COM)

Credits: 1

Laboratory experience that accompanies BIOL 210.

BIOL 221 - Human Anatomy (COM)

Credits: 3

Structures of various systems in the human body are presented as a structural basis for physiology.

Corequisites: BIOL 221L.

BIOL 221L - Human Anatomy Lab (COM)

Credits: 1

Laboratory experience that accompanies BIOL 221.

Corequisites: BIOL 221.

BIOL 235 - Introduction to Biotechnology (COM) [SGR #6, HSDC]

Credits: 2

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.

Notes: Course meets SGR #6.

BIOL 235L - Introduction to Biotechnology Lab (COM) [SGR #6, HSDC]

Credits: 1

Laboratory to accompany BIOL 235.

Corequisites: BIOL 235.

Notes: Course meets SGR #6.

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.

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 or BIOL 153.

Cross-Listed: NRM 311.

BIOL 325 - Physiology (COM)

Credits: 3

Basic cell physiology, neural, hormonal and neuroendocrine control systems. Coordinated body functions.

Prerequisites: (BIOL 151 or BIOL 153 or BIOL 221) and (CHEM 106 or CHEM 112).

Corequisites: BIOL 325L.

BIOL 325L - Physiology Lab (COM)

Credits: 1

Laboratory experience that accompanies BIOL 325.

Corequisites: BIOL 325.

BIOL 326 - Biomedical Physiology

Credits: 3

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.

Prerequisites: (BIOL 153 or BIOL 221) and CHEM 114.

Corequisites: BIOL 326L.

BIOL 326L - Biomedical Physiology Lab

Credits: 1

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.

Corequisites: BIOL 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 or BIOL 151.

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 or BIOL 153.

BIOL 383 - Bioethics (COM)

Credits: 4

Ethical, social and policy dilemmas in medicine and biology.

Cross-Listed: PHIL 383.

BIOL 415 - Mycology (COM)

Credits: 2

Comprehensive taxonomic survey of the kingdom Fungi; reproductive biology, physiology, genetics, and ecology of fungal organisms; relationship to fungi to human affairs.

Prerequisites: BIOL 101 or BIOL 103 or BIOL 151 or BIOL 153.

Corequisites: BIOL 415L.

Cross-Listed: PS 415.

BIOL 415L - Mycology Lab (COM)

Credits: 1

Laboratory to accompany BIOL 415.

Corequisites: BIOL 415.

Cross-Listed: PS 415L.

BIOL 439 - 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 - 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.

BIOL 466 - 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 or BIOL 153.

Cross-Listed: NRM 466.

BIOL 467 - Parasitology (COM)

Credits: 2

The broad field of animal parasitology, including protozoa, helminths, and arthropods. 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.

Prerequisites: BIOL 101 or BIOL 151.

Corequisites: BIOL 467L.

BIOL 467L - Parasitology Lab (COM)

Credits: 1

Laboratory experience that accompanies BIOL 467.

Corequisites: BIOL 467.

BIOL 470 - 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 - 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.

BIOL 483 - 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 and BIOL 153) 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.

BIOL 491 - Independent Study (COM)

Credits: 1-4

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.

BIOL 492 - Topics (COM)

Credits: 1-5

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.

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 - Research (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.

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.

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: BLAW 350.

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: AGECE 352.

Notes: Sections of this course are provided online through the Innovative Digital 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: AGECE 366.

Notes: Sections of this course are provided online through the Innovative Digital 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 - 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.

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.

Registration Restriction: Junior standing or higher.

BLAW 454 - Real Estate Finance

Credits: 3

Students will acquire the skills necessary to evaluate a variety of real estate investments through exposure to the terms, issues, and topics associated with commercial real estate. Students will become familiar with the unique investment structures, institutional features, and jargon associated with the field of real estate.

Prerequisites: FIN 310.

Registration Restriction: Junior standing.

BLAW 455 - Advanced Real Property Valuation

Credits: 3

Students will learn the procedures used to estimate market value of real property; market analysis and valuation techniques most appropriate for appraising income-producing properties, including commercial and agricultural properties.

Prerequisites: BLAW 453.

Registration Restriction: Junior standing.

BLAW 462 - 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: AGECE 462.

Notes: Sections of this course are provided online through the Innovative Digital Education Alliance.

BLAW 467 - 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.

BLAW 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.

BLAW 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.

BLAW 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.

BLAW 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.

BLAW 498 - Research (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.

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 - General Botany (COM) [SGR #6, HSDC]

Credits: 2

A phylogenetic approach to the study of plant diversity and evolutionary relationships emphasizing structure and function of plant systems.

Prerequisites: BIOL 101 or BIOL 151.

Corequisites: BOT 201L.

Notes: Course meets SGR #6.

BOT 201L - General Botany Lab (COM) [SGR #6, HSDC]

Credits: 1

Laboratory experience that accompanies BOT 201.

Corequisites: BOT 201.

Notes: Course meets SGR #6.

BOT 301 - Plant Systematics (COM)

Credits: 2

Principles of phylogeny, classification, nomenclature, evolution; demonstrations, field study and laboratory practice in collection, preserving, and identifying plants.

Prerequisites: BIOL 151 or BIOL 153.

Corequisites: BOT 301L.

BOT 301L - Plant Systematics Lab (COM)

Credits: 1

Laboratory experience that accompanies BOT 301.

Corequisites: BOT 301.

BOT 303 - Forest Ecology and Management

Credits: 2

The basics of environmental factors which control the growth of trees and forests and how forests in North America are managed.

Corequisites: BOT 303L.

Cross-Listed: HO 303.

BOT 303L - Forest Ecology and Management Lab

Credits: 1

Laboratory to accompany BOT 303.

Corequisites: BOT 303.

Cross-Listed: HO 303L.

BOT 327 - Plant Physiology

Credits: 3

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.

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.

BOT 327L - Plant Physiology Lab

Credits: 1

Laboratory experience that accompanies BOT 327.

Corequisites: BOT 327.

BOT 405 - Grasses and Grasslike Plants

Credits: 1

A systematic survey of grasses and grasslike plants 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.

Prerequisites: BIOL 101 or BIOL 151.

Corequisites: BOT 405L.

BOT 405L - Grasses and Grasslike Plants Lab

Credits: 2

A systematic survey of grasses, and grasslike plants 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.

Corequisites: BOT 405.

BOT 415 - Aquatic Plants

Credits: 1

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 plants.

Prerequisites: BIOL 103 or BIOL 153.

Corequisites: BOT 415L.

BOT 415L - Aquatic Plants Lab

Credits: 2

Laboratory to accompany BOT 415.

Corequisites: BOT 415.

BOT 419 - Plant Ecology (COM)

Credits: 2

Description of plant communities, their dynamics and instruction. Environmental factors and their relationship with plants. Field trips.

Prerequisites: BIOL 153 or BOT 201.

Corequisites: BOT 419L.

Cross-Listed: RANG 419.

Notes: Fall, even years.

BOT 419L - Plant Ecology Lab (COM)

Credits: 1

Laboratory experience that accompanies BOT 419.

Corequisites: BOT 419.

Cross-Listed: RANG 419L.

Notes: Fall, even years.

BOT 491 - Independent Study (COM)

Credits: 1-4

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.

BOT 492 - Topics (COM)

Credits: 1-5

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.

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 - Research (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.

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 230 - Consumer Engagement

Credits: 3

This course provides a comprehensive understanding of consumer communication in today's marketplace. It explores cultural, economic, social, psychological conditions, and media environments that influence the consumer purchase process in the marketplace. Emphasis is placed on understanding the communication dynamics between consumers and businesses, including the role of media environments in influencing consumer behavior, the influence of consumer subculture affecting marketing strategies, and the effectiveness of communication in reaching distinct consumer groups.

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 412 - Consumer Policy Analysis

Credits: 3

This course offers a comprehensive analysis of emerging issues and related consumer policies affecting individuals, families, and the global community. Students will examine the socio-economic, political, and cultural factors driving these issues, with a focus on the implications for consumer behavior, consumer advocacy, and policy development. Topics will include sustainability, digital consumerism, financial literacy, and the evolving role of government and advocacy organizations in shaping consumer welfare.

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.

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 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. Prerequisites: CA 494.

CA 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.

CA 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.

CA 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.

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.

CEE (Civil and 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 - Elementary Surveying

Credits: 3

Surveying theory including techniques and computations with topics related to measurements, analysis of errors and propagation, leveling, angles and directions, and traverses. Applications related to construction surveying and land/property surveying. Geomatics applications covering global positioning systems (GPS), geographic information systems (GIS), and topography, horizontal curves, vertical curves, and volumes (earthwork).

Prerequisites: MATH 115 or MATH 120 or Math Index score 1300.

Corequisites: CEE 106L.

CEE 106L - Elementary Surveying Lab

Credits: 1

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.

Corequisites: CEE 106.

CEE 216 - Civil Engineering Materials

Credits: 2

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.

Prerequisites: CHEM 112.

Corequisites: CEE 216L.

CEE 216L - Civil Engineering Materials Lab

Credits: 1

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.

Corequisites: CEE 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.

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, CEE 216L, and EM 321 (completed prior or concurrently).

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 - Engineering Geology

Credits: 2

Basic principles of physical geology and soil mechanics from a civil and environmental engineering perspective; 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.

Prerequisites: CEE 216 and CEE 216L.

Corequisites: CEE 340L.

CEE 340L - Engineering Geology Lab

Credits: 1

Identification of minerals and rocks, classification of soils, and measurement of index properties of soils.

Corequisites: CEE 340.

CEE 346 - Geotechnical Engineering (COM)

Credits: 3

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.

CEE 346L - Geotechnical Engineering Lab (COM)

Credits: 1

Accompanies CEE 346.

Corequisites: CEE 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 - Asphalt Materials and Mix Design

Credits: 2

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.

Prerequisites: CEE 216, CEE 216L, CEE 363, and EM 321.

Corequisites: CEE 411L.

CEE 411L - Asphalt Materials and Mix Design Lab

Credits: 1

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.

Corequisites: CEE 411.

CEE 422 - Environmental Engineering Instrumentation

Credits: 2

Development of an understanding of standard analytical methods for parameters commonly measured in liquid environmental systems.

Prerequisites: CEE 225 or consent.

Corequisites: CEE 422L.

CEE 422L - Environmental Engineering Instrumentation Lab

Credits: 1

Analysis of water and wastewater samples using environmental laboratory instrumentation. Development of laboratory skills in water and wastewater analysis.

Corequisites: CEE 422.

CEE 423 - 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 - 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 - 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. Registration Restriction: Senior standing.

Corequisites: NRM 282 or STAT 281 or STAT 381.

CEE 435 - 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.

Registration Restriction: Senior standing.

CEE 436 - 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 - 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 - Matrix Analysis of Structures

Credits: 3

Theory and application of matrix methods in structural analysis.

Prerequisites: CEE 353.

CEE 446 - 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 - 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 - 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 - 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.

Registration Restriction: Senior standing and department permission required.

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 - Urban Transportation Engineering Design

Credits: 3

Introduction to transportation engineering design with a focus on urban aspects of design, construction, and maintenance. Level-of-service, stopping sight distance, highway alignment, earthwork, intersection/interchange design, pavement design, and additional topics with a focus on urban setting concerns.

Prerequisites: CEE 363.

CEE 469 - Rural Transportation Engineering Design

Credits: 3

Introduction to transportation engineering design with a focus on rural aspects of design, construction, and maintenance. Level-of-service, stopping sight distance, highway alignment, earthwork, intersection/interchange design, pavement design, and additional topics with a focus on rural setting concerns.

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.

Registration Restriction: 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.

Registration Restriction: 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.

CEE 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.

CEE 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.

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 - Research (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.

CHEM (Chemistry)

CHEM 105 - Foundations of Chemistry

Credits: 1

A foundational course designed to prepare and concurrently support students in general chemistry (CHEM 112 and CHEM 114). The structured content is supportive of the lecture material providing practice/review of fundamental concepts and principles essential for success including metric conversions, stoichiometry, and general problem-solving approaches.

CHEM 106 - Chemistry Survey (COM) [SGR #6, HSDC]

Credits: 3

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.

Prerequisites: Completion or concurrent registration in one of the following:

[MATH 095, MATH 101, MATH 103, MATH 104, MATH 114, MATH 115, MATH 120, MATH 121, MATH 123, MATH 125 or MATH/STAT 281] or

MATH-ACT 20 or higher, MATH-SAT 471 or higher, or Smarter Balance 2628 or higher.

Corequisites: CHEM 106L.

Notes: Course meets SGR #6.

CHEM 106L - Chemistry Survey Lab (COM) [SGR #6, HSDC]

Credits: 1

Laboratory designed to accompany CHEM 106.

Corequisites: CHEM 106.

Notes: Course meets SGR #6.

CHEM 108 - Organic and Biochemistry (COM) [SGR #6, HSDC]

Credits: 4

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.

Prerequisites: CHEM 106 or CHEM 112.

Corequisites: CHEM 108L.

Notes: Course meets SGR #6.

CHEM 108L - Organic and Biochemistry Lab (COM) [SGR #6, HSDC]

Credits: 1

Laboratory designed to accompany CHEM 108.

Prerequisites: CHEM 106L or CHEM 112L.

Notes: Course meets SGR #6.

CHEM 112 - General Chemistry I (COM) [SGR #6, HSDC]

Credits: 3

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).

Prerequisites: Completion or concurrent registration in one of the following: MATH 114, MATH 115, MATH 116, MATH 120, MATH 121, MATH 123, MATH 125, or MATH/STAT 281.

Corequisites: CHEM 112L.

Notes: Course meets SGR #6.

CHEM 112L - General Chemistry I Lab (COM) [SGR #6, HSDC]

Credits: 1

Laboratory designed to accompany CHEM 112.

Corequisites: CHEM 112.

Notes: Course meets SGR #6.

CHEM 114 - General Chemistry II (COM) [SGR #6, HSDC]

Credits: 3

A continuation of CHEM 112. An introduction to the basic principles of chemistry for students needing an extensive background in chemistry.

Prerequisites: CHEM 112 and a MATH course (MATH 114, MATH 115, MATH 120, MATH 121, MATH 123, MATH 125, or STAT 281).

Corequisites: CHEM 114L. CHEM 114L is not required for Civil Engineering majors.

Notes: Course meets SGR #6.

CHEM 114L - General Chemistry II Lab (COM) [SGR #6, HSDC]

Credits: 1

Laboratory designed to accompany CHEM 114.

Prerequisites: CHEM 112L.

Corequisites: CHEM 114.

Notes: 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.

Notes: Fall.

CHEM 120 - Elementary Organic Chemistry

Credits: 2

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. CHEM 120L is not required for Civil Engineering majors.

Notes: Spring.

CHEM 120L - Elementary Organic Chemistry Lab

Credits: 1

Laboratory to accompany CHEM 120.

Corequisites: CHEM 120.

Notes: Spring.

CHEM 180 - Introduction to Laboratory Safety

Credits: 1

This course will prepare students for safely working in chemistry or biochemistry instructional and research laboratories. Students will explore the American Chemical Society RAMP process and gain understanding of Safety Data Sheets and proper use of personal protective equipment.

Notes: Fall.

CHEM 237 - Introduction to Research

Credits: 1

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 114.

CHEM 326 - Organic Chemistry I (COM)

Credits: 3

A systematic treatment of the chemistry of carbon compounds, including nomenclature, structure-reactivity relationships, reaction mechanisms, synthesis, and spectroscopy.

Prerequisites: CHEM 114 or CHEM 116 or ISCI 153.

Corequisites: CHEM 326L.

CHEM 326L - Organic Chemistry I Lab (COM)

Credits: 1

Laboratory designed to accompany CHEM 326.

Prerequisites: CHEM 114L or CHEM 116L or ISCI 153L.

Corequisites: CHEM 326.

CHEM 328 - Organic Chemistry II (COM)

Credits: 3

A continuation of CHEM 326. A systematic treatment of the chemistry of carbon compounds, including nomenclature, structure-reactivity relationships, reaction mechanisms, synthesis, and spectroscopy.

Prerequisites: CHEM 326.

Corequisites: CHEM 328L.

CHEM 328L - Organic Chemistry II Lab (COM)

Credits: 1

Laboratory designed to accompany CHEM 328.

Prerequisites: CHEM 326L.

Registration Restriction: CHEM 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 328.

Corequisites: CHEM 329L.

Notes: Even Spring. 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.

Corequisites: CHEM 329.

CHEM 332 - Analytical Chemistry (COM)

Credits: 3

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.

Prerequisites: CHEM 114 or CHEM 116.

Corequisites: CHEM 332L.

Notes: Fall.

CHEM 332L - Analytical Chemistry Lab (COM)

Credits: 1

Laboratory to accompany CHEM 332.

Corequisites: CHEM 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 and MATH 123.

Notes: Spring.

CHEM 343L - Fundamentals of Chemical Thermodynamics Lab

Credits: 1

Laboratory to accompany CHEM 343.

Corequisites: CHEM 343.

Notes: Spring.

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 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.

Notes: Odd Spring.

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 464.

Notes: Even Spring.

CHEM 448 - Biophysical Chemistry

Credits: 3

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.

Prerequisites: CHEM 464 and MATH 125.

Corequisites: CHEM 448L.

Notes: Fall.

CHEM 448L - Biophysical Chemistry Lab

Credits: 1

Laboratory to accompany CHEM 448. Fundamental physical chemistry principles and techniques of physical chemistry used in studying biomacromolecules and biological systems.

Corequisites: CHEM 448.

Notes: Fall.

CHEM 452 - Inorganic Chemistry (COM)

Credits: 3

Theoretical and periodic aspects of inorganic chemistry.

Prerequisites: CHEM 326 or CHEM 332 or CHEM 352 or CHEM 442.

Corequisites: CHEM 452L.

Notes: Even Fall.

CHEM 452L - Inorganic Chemistry Lab (COM)

Credits: 1

Synthesis and characterization of inorganic compounds.

Prerequisites: CHEM 328L.

Corequisites: CHEM 452.

CHEM 455 - 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 328.

CHEM 465 - Biochemistry II (COM)

Credits: 3

A continuation of CHEM 464.

Prerequisites: CHEM 464.

Notes: Spring.

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.

Notes: Spring.

CHEM 467 - 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 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 464.

Notes: Even Spring.

CHEM 468 - Chemical Biology

Credits: 3

Chemical biology is the interdisciplinary field of study at the interface of chemistry and the biological sciences. Chemical Biology applies concepts and tools from chemistry that are uniquely enabling of solving biological problems and making biological discovery. It utilizes experimental techniques from a wide range of chemical and biological fields. The chemistry of proteins, nucleic acids, lipids, and glycans, as well as biorthogonal chemistry, protein and nucleic acid modifications, and glycotherapeutics will be covered.

Prerequisites: CHEM 464.

Notes: Odd Spring.

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 or CHEM 326.

Notes: Odd Fall.

CHEM 484 - 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 464.

Notes: Even Fall.

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.

Notes: Spring.

CHEM 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.

CHEM 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.

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 - Research (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.

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 and 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 - 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 - 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.

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 120 - Introduction to Industrial Safety

Credits: 3

Safety course focused on the cement, concrete and aggregate industries.

CIM 125 - Plans and Specifications

Credits: 2

Introduction to reading construction plans to gain an understanding pre-construction build specifications. Commercial, heavy construction, and residential plans are covered.

CIM 210 - Fundamentals of Concrete: Properties and Testing

Credits: 3

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.

Prerequisites: CIM 101.

Corequisites: CIM 210L.

CIM 210L - Fundamentals of Concrete: Properties and Testing Lab

Credits: 1

Laboratory designed to accompany CIM 210.

Corequisites: CIM 210.

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 210 and CIM 210L.

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 230.

CIM 370 - Concrete Production and Strategy

Credits: 2

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 - Advanced Concrete Materials

Credits: 3

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.

Prerequisites: CIM 210.

Corequisites: CIM 440L.

CIM 440L - Advanced Concrete Materials Lab

Credits: 1

Lab to accompany CIM 440.

Corequisites: CIM 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.

Registration Restriction: 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.

Registration Restriction: Senior standing or instructor approval.

CIM 480 - Industrial Sales and Marketing

Credits: 3

Students will be exposed to the sales and marketing processes of suppliers and producers of ready-mixed concrete, concrete masonry block, pre-cast concrete, pre-stressed concrete and concrete pipe.

Registration Restriction: Senior standing.

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.

CIV (Civics)

CIV 100 - American Civics (COM) [SGR #3, HSDC] [CIV]

Credits: 3

Through this course students will develop a comprehensive understanding of civic knowledge, values, and skills, enabling them to actively participate in civic life as informed and responsible citizens.

Notes: Course meets SGR #3 civics requirement.

CJUS (Criminal Justice)

CJUS 201 - Introduction to Criminal Justice (COM) [SGR #3, HSDC]

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.

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 - 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.

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 - 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.

CJUS 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.

CJUS 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.

CJUS 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.

CJUS 498 - Research (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.

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 - Construction Surveying

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: MATH 115 or MATH 120.

Corequisites: CM 210L.

CM 210L - Construction Surveying Lab

Credits: 1

Laboratory to accompany CM 210.

Corequisites: CM 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.

Registration Restriction: Students in the B.S. in Construction Management may not take this course.

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 or CIM 125.

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.

Registration Restriction: Students in the B.S. in Construction Management may not take this course.

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.

Registration Restriction: Students in the B.S. in Construction Management may not take this course.

CM 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.

CM 320 - Construction Soil Mechanics

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 with a C or better.

Corequisites: CM 320L.

CM 320L - Construction Soil Mechanics Lab

Credits: 1

Corequisites: 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.

Registration Restriction: 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 with a C or better.

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: GE 241 with a C or better or EM 214 with a C or better.

CM 400 - Risk Management and Construction Safety

Credits: 3

Construction safety and health and effective management of risk.

Registration Restriction: Sophomore standing or higher.

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.

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 - 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 232 and CM 374.

Registration Restriction: Senior standing or written consent.

CM 455 - Residential Construction

Credits: 3

The study of the residential construction process including design, documentation, and construction.

Registration Restriction: Sophomore standing or higher.

CM 460 - 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.

Registration Restriction: Sophomore standing or higher.

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.

Registration Restriction: Senior standing.

CM 473 - 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.

Registration Restriction: Senior standing or instructor approval.

CM 485 - Site Development and Feasibility Analysis

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.

Registration Restriction: Sophomore standing or higher.

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.

Registration Restriction: Senior standing.

CM 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.

Registration Restriction: Sophomore standing or higher.

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.

Registration Restriction: Sophomore standing or higher.

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.

Registration Restriction: Instructor permission.

CM 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.

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.

Registration Restriction: Sophomore class standing.

CMST (Communication Studies)

CMST 101 - Foundations of Communication (COM) [SGR #2, HSDC]

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, HSDC]

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, HSDC]

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, HSDC]

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 - 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 - 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 - 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 - 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 - 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 - Current Issues in Health Communication

Credits: 3

In-depth engagement with contemporary and emerging areas of health communication scholarship and practice, such as work with social media, international communities, or new public health crises. Critical examination of complexities in researching and enacting health communication, especially in contexts such as health care or health communication campaigns.

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 - 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.

CMST 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.

CMST 492 - Topics (COM)

Credits: 1-5

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.

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 - Research (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.

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) [HSDC]

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) [HSDC]

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 201 - Introduction to Modern Computing

Credits: 2

Students will learn the foundational concepts and terminologies of Data Science, Artificial Intelligence (AI), Machine Learning (ML), and Cloud Computing and the basics of data manipulation, analysis and visualization. Students will explore key algorithms and techniques in ML and AI and how the technologies are used in real world applications including the ethical aspects and societal impacts of Data Science, AI and ML.

Prerequisites: CSC 150.

CSC 205 - Advanced Computer Applications (COM) [HSDC]

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 - Digital Logic

Credits: 3

The fundamental concepts of analysis and design of digital circuits including combinational and sequential logic using hardware and software tools.

Prerequisites: "C" or better in CSC 150.

Corequisites: CSC 244L and CSC 314.

CSC 244L - Digital Logic Lab

Credits: 1

Laboratory topics which enhance the concepts of the lecture course.

Corequisites: CSC 244.

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.

Prerequisites: CSC 150.

CSC 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.

CSC 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.

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#. 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

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.

CSC 422 - Computer Vision and Pattern Recognition

Credits: 3

This course introduces fundamentals and applications, and recent advances in computer vision and pattern recognition. Topics covered in this course include single-view and two-view geometry, multi-view 3D reconstruction and registration, 2D/3D features and descriptors, object detection and tracking, and semantic scene understanding using deep convolutional neural networks (CNN). Students will have hands-on experience in implementing computer vision algorithms and deep CNN architectures in solving real-world problems.

Prerequisites: MATH 250.

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 or CSC 250 or 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 - 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 fundamentals of video game programming. Students will explore different development environments, such as: gaming engines like Unity and Unreal. Students will develop a basic understanding of how to design and implement video games by creating a simple video game.

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: (CSC 340 and CSC 484) or SE 306 with a "C" or better.

Registration Restriction: Senior standing.

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.

Registration Restriction: Senior standing.

CSC 469 - 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.

CSC 474 - 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 300.

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 - AI Assisted Medical Image Processing

Credits: 3

This course covers the fundamentals of AI and its applications in enhancing medical image analysis and diagnosis. Students will learn about fundamentals and applications of the latest artificial intelligence technology for medical image processing. Students will have hands on experience in developing and applying AI models to process medical imaging data (e.g., X-Rays, MRIs and CT scans) and will explore use cases of AI-powered medical image processing techniques in implementing healthcare systems.

Prerequisites: MATH 250.

CSC 487 - 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

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.

CSC 492 - Topics (COM)

Credits: 1-5

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.

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 - Research (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.

CSS (Computational Science and Statistics)

CSS 401 - Data Science Capstone

Credits: 3

This project-based course emphasizes the practical application of data science techniques and the effective communication of findings. The project will integrate skills acquired in earlier coursework and encompass all stages of the data science process, including data preprocessing, analysis, modeling, and interpretation.

Registration Restriction: Senior standing.

CTE (Career and 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

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.

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 - Creative Movement for Children

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.

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 (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.

Prerequisites: Consent.

DS (Dairy Science)

DS 119 - Opportunities in Dairy and Food 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.

Corequisites: DS 120 or VET 120.

Notes: Fall only.

DS 120 - Survey of Dairy and Food Science Industries

Credits: 1

First-year course designed to introduce students to developing a plan of study, activities and work experiences to best prepare them for future careers in dairy and food science and their role in society. Students will also be introduced to contemporary issues in dairy and food science.

Corequisites: DS 119.

DS 130 - Introduction to Dairy Science

Credits: 2

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.

Notes: Fall and Spring.

DS 130L - Introduction to Dairy Science Lab

Credits: 1

Laboratory to accompany DS 130.

Corequisites: DS 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 - Dairy Microbiology

Credits: 2

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 or MICR 233.

Corequisites: DS 301L.

Notes: Odd Spring.

DS 301L - Dairy Microbiology Lab

Credits: 2

Laboratory to accompany DS 301.

Corequisites: DS 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 - Dairy Cattle Breeding and Evaluation

Credits: 2

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.

Notes: Spring.

DS 312L - Dairy Cattle Breeding and Evaluation Lab

Credits: 2

Lab to accompany DS 312.

Corequisites: DS 312.

Notes: Spring.

DS 314 - Dairy Farm Evaluation

Credits: 2

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 400 - Dairy Chemistry and Analysis

Credits: 3

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), and completion of or concurrent enrollment in CHEM 108.

Corequisites: DS 400L.

Notes: Fall.

DS 400L - Dairy Chemistry and Analysis Lab

Credits: 2

Lab to accompany DS 400.

Corequisites: DS 400.

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 - Physiology of Lactation

Credits: 3

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.

Notes: Even Fall.

DS 413L - Physiology of Lactation Lab

Credits: 1

Laboratory to accompany DS 413.

Corequisites: DS 413.

Notes: Even Fall.

DS 421 - Dairy Plant Management

Credits: 3

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.

Registration Restriction: Junior standing.

Corequisites: DS 421L.

Notes: Even Fall.

DS 421L - Dairy Plant Management Lab

Credits: 1

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.

Registration Restriction: Junior standing.

Corequisites: DS 421.

Notes: Even Fall.

DS 442 - 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.

Notes: Odd Spring.

DS 460 - Dairy Product Processing I

Credits: 4

Principles and practices of producing fluid/market milk, cultured products and cheese.

Prerequisites: DS 130 and (MICR 231 or MICR 233).

Corequisites: DS 460L.

Notes: Odd Fall.

DS 460L - Dairy Product Processing I Lab

Credits: 1

Laboratory to accompany DS 460.

Corequisites: DS 460.

Notes: Odd Fall.

DS 461 - Dairy Product Processing II

Credits: 4

Principles and practices of producing frozen dairy desserts, butter, concentrated milks, and dried milk products.

Prerequisites: DS 130 and (MICR 231 or MICR 233).

Corequisites: DS 461L.

Notes: Even Spring.

DS 461L - Dairy Product Processing II Lab

Credits: 1

Laboratory to accompany DS 461.

Corequisites: DS 461.

Notes: Even Spring.

DS 480 - Dairy Farm Operations I

Credits: 3

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, and (ECON 201 or ECON 202).

Registration Restriction: Junior standing.

Corequisites: DS 480L.

Notes: Odd Fall.

DS 480L - Dairy Farm Operations I Lab

Credits: 1

Lab to accompany DS 480.

Corequisites: DS 480.

Notes: Odd Fall.

DS 481 - Dairy Farm Operations II

Credits: 3

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, DS 480, and (ECON 201 or ECON 202).

Corequisites: DS 481L.

Notes: Even Spring.

DS 481L - Dairy Farm Operations II Lab

Credits: 1

Lab to accompany DS 481.

Corequisites: DS 481.

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.

Registration Restriction: Senior standing.

Notes: Fall.

DS 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.

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.

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 498 - Research (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.

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.

DSCI 453 - 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.

DSCI 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.

DSCI 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.

DSCI 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.

DSCI 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.

DSCI 498 - Research (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.

DSGN (Design)

DSGN 100 - Survey of the Built Environment Professions (COM) [HSDC]

Credits: 3

This course provides an in-depth exploration of the various professions that contribute to the design and construction of the built environment, including architecture, landscape architecture, interior design, construction management and construction technology.

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, HSDC]

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 253 - Site Analysis and Surrounding

Credits: 3

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.

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 482 - Travel Studies

Credits: 1-5

This travel study course is designed to provide extramural 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.

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.

DSGN 492 - 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.

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.

ECE (Early Childhood Education)

ECE 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 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.

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 atypical 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.

Corequisites: ECE 196.

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 and a developmentally appropriate context for learning. Topics include typical and atypical development and behaviors related to brain development; language; and cognitive, physical, and social development. In addition, developmental theory and implications of early care and education will be studied.

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 - Pedagogy and Curriculum

Credits: 3

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 and ECE 360.

ECE 320L - Pedagogy and Curriculum Lab

Credits: 1

Field experience in a K-3 setting.

Corequisites: ECE 320.

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.

ECE 322 - Arts, Health, and Technology in ECE

Credits: 3

This course offers content and methods of instruction for teaching an integrated curriculum in preschool and primary grades with emphasis on creative and performing arts, music, physical education and activities, health, technology and sensory for diverse learners.

Corequisites: ECE 321.

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 355 - 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 360 - Play and Inquiry

Credits: 3

Students will explore and experience the importance and values of play and inquiry (such as risk-taking, creativity, perspective-taking, and inclusion). Exploring global perspectives of play, models of purposeful play, exploring different materials (such as drawing for critical thinking, supporting dramatic play, using open-ended materials in math, and 2D/3D design thinking) and how to incorporate arts and creative expression materials into inquiry-based learning experiences for young children is included.

Prerequisites: Acceptance into Early Childhood Education (ECE) program.

Corequisites: ECE 360L.

ECE 360L - Play and Inquiry Lab

Credits: 1

Field experience in a preschool to kindergarten setting.

Corequisites: ECE 360.

ECE 366 - Interdisciplinary and Teacher Research in ECE

Credits: 2

Investigation of documentation, inquiry, teacher-research, and interdisciplinary research. Students will engage in teacher-research or interdisciplinary research. Instructor consent.

Registration Restriction: Instructor consent.

Corequisites: ECE 366L.

ECE 366L - Interdisciplinary and Teacher Research in ECE Lab

Credits: 1

Laboratory to accompany ECE 366.

Corequisites: ECE 366.

ECE 375 - Guidance in ECE

Credits: 3

This course explores the unique aspects of guidance techniques for children birth through grade three. Content includes classroom management, organizing the learning environment, family partnerships, creating trauma-sensitive teaching, effective adult/child guidance such as limiting setting and problem-solving, fostering democratic life skills, such as recognizing and regulating emotions, and developing a sense of agency.

ECE 400 - Science, Social Studies, and Math in ECE

Credits: 3

This inquiry-based science, social studies, and math methods course explores teaching methods for birth to grade 3. Teacher candidates will consider contemporary topics and develop inclusive methods of infusing such topics through an integrative hands-on/minds-on learning approach, including designing, delivering, and evaluating instructional strategies and processes.

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, including how visual & performing arts are integrated into the kindergarten curriculum.

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.

Registration Restriction: Senior standing.

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.

ECE 471 - Foundations of Reading

Credits: 3

This course will promote awareness and application of the foundational skills necessary for beginning readers. Views of reading will be explored, as well as practical approaches for teaching literacy skills and engagement with books in the classroom. In addition, culturally responsive approaches to reading instruction and the use of notable children's literature will be explored.

Cross-Listed: ELED 471.

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 and ECE 360.

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 including the use of creative expression and visual arts as tools for representation of thought. An additional ""Mandatory Fee"" applies to this course.

ECE 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.

ECE 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.

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.

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, HSDC]

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, HSDC]

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 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 - 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: Completion or concurrent registration in ECON 301, completion or concurrent registration in 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 - 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 - 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: AGE 440.

ECON 450 - 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 - 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.

ECON 460 - 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 - 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.

ECON 472 - 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: AGE 472.

ECON 476 - 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: MKTG 370 and (BADM 220 or MATH/STAT 281).

Cross-Listed: MKTG 476.

ECON 485 - Economics Capstone

Credits: 3

Integrate and apply qualitative and quantitative methods to analyze contemporary economic problems.

Prerequisites: ECON 301, ECON 302, ECON 423, and ECON 428.

Registration Restriction: Economics majors only and senior standing.

ECON 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.

Prerequisites: ECON 201 or ECON 202.

ECON 491 - Independent Study (COM)

Credits: 1-4

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.

ECON 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.

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 - Research (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.

EDER (Education Evaluation and Research)

EDER 415 - Educational Assessment (COM)

Credits: 2

A study of educational measurements covering both the elementary and secondary fields.

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 102 - Introduction to Education (COM)

Credits: 3

This course focuses on education in the multicultural society of the United States. From the founding of common schools in the nineteenth century to the drive to provide mass public schooling in the twentieth century, the purposes of education often have been conflicting and the outcomes of schooling complicated. The course will urge you to develop new understandings of the role and nature of schools and teaching, as well as to construct alternative perspectives on and approaches to examining educational issues. Additionally, students will complete classroom observations.

EDFN 338 - Foundations of American Education (COM)

Credits: 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 - 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.

Registration Restriction: Department consent (admission into teacher education program, junior standing, and 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.

Registration Restriction: Department permission and acceptance to Teacher Education.

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.

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 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.

Cross-Listed: SEED 456.

EDFN 460 - 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 - 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 - 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 - 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 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 480 - Leadership Development in Youth Organizations

Credits: 3

Develop an understanding of leadership development in formal youth organizations in, within, or adjacent to school contexts. Emphasis is placed on positive youth and leadership development including social, emotional, academic, and community aspects. The course will foster a rich understanding of the necessary leadership skills to ensure organizational and individual growth in youth members.

EDFN 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.

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.

EE (Electrical Engineering)

EE 101 - Introduction to Electrical Engineering

Credits: 1

An introduction to the electrical engineering profession as well as fundamental electrical engineering concepts. Course topics include voltage, current, power, Ohm's law, sign convention, KVL, KCL, basic circuit components with applications, and computer simulation.

Prerequisites: Prior or concurrent completion of MATH 123 or Math Index score of 1300.

Corequisites: EE 101L.

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.

Prerequisites: Prior or concurrent completion of MATH 123 or Math Index score of 1300.

Corequisites: EE 101.

EE 216 - Linear Circuits I

Credits: 3

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 and MATH 125.

EE 216L - Linear Circuits I Lab

Credits: 1

Laboratory to accompany EE 216.

Corequisites: EE 216.

EE 218 - Linear Circuits II

Credits: 3

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 or EE 220-220L.

Corequisites: EE 218L and MATH 321.

EE 218L - Linear Circuits II Lab

Credits: 1

Laboratory to accompany EE 218.

Corequisites: EE 218.

EE 222 - Energy Conversion

Credits: 3

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 and EE 218L.

Corequisites: EE 222L.

EE 222L - Energy Conversion Lab

Credits: 1

Laboratory to accompany EE 222.

Corequisites: EE 222.

EE 245 - Digital Systems

Credits: 3

The fundamental concepts of analysis and design of digital circuits including combinational and sequential logic design using TTL, CMOS, PLD's and software tools.

Prerequisites: "C" or better in CSC 150.

Corequisites: EE 245L.

EE 245L - Digital Systems Lab

Credits: 1

Laboratory topics which enhance the design concepts of the lecture course, EE 245.

EE 260 - Electronic Materials and Devices

Credits: 3

Introduction to the materials, processes and designs used for the fabrication and packaging of electronic and passive devices, semiconductor and junction theory, semiconductor devices, and other solid-state devices.

Prerequisites: CHEM 112, (PHYS 209 or PHYS 213), and "C" or better in EE 216.

EE 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.

EE 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.

EE 300 - Basic Electrical Engineering I

Credits: 2

Circuit analysis and measurement concepts applicable to dc and sinusoidal ac electrical systems, including Ohm's Law and Kirchhoff's Laws. Non-EE students.

Prerequisites: MATH 125 and (PHYS 209 or PHYS 213).

Corequisites: EE 300L.

EE 300L - Basic Electrical Engineering I Lab

Credits: 1

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.

Corequisites: EE 300.

EE 302 - Basic Electrical Engineering II

Credits: 2

Introduction to analog and digital electronic devices and applications. For non-EE students.

Prerequisites: EE 300 and EE 300L.

Corequisites: EE 302L.

EE 302L - Basic Electrical Engineering II Lab

Credits: 1

Hands-on exposure to electronic devices, analog and digital circuits, and electrical measurement issues. Experiments are designed to reinforce the theoretical concepts presented in EE 302. For non-EE students.

Corequisites: EE 302.

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 - Electronics I (COM)

Credits: 3

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.

Prerequisites: Completion of or concurrent enrollment in EE 221 or EE 222.

EE 320L - Electronics I Lab (COM)

Credits: 1

Accompanies EE 320.

EE 321 - Electronics II

Credits: 3

Design and analysis concepts for linear and digital electronic circuits. Emphasis on integrated circuit design.

Prerequisites: EE 320.

EE 321L - Electronics II Lab

Credits: 1

Experimental design and analysis of electronic circuits.

Corequisites: EE 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.

EE 347 - Microcontroller Systems Design

Credits: 3

Hardware concepts, organization and design of microcomputer systems, including single-chip microcomputers. Principles of microcomputer programming and operation using machine and assembly language.

Prerequisites: EE 345.

Corequisites: EE 347L.

EE 347L - Microcontroller Systems Design Lab

Credits: 1

Laboratory topics which enhance the design concepts of the concurrent lecture course, EE 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: 3

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) and MATH 225.

EE 420 - Electronics III

Credits: 3

Selected topics in the design of analog and digital electronics. Provides increased understanding of theory, simulation, and application of semiconductor devices.

Prerequisites: EE 245, EE 321, and EE 321L.

Corequisites: EE 420L.

EE 420L - Electronics III Lab

Credits: 1

Experimental design and analysis of analog and digital electronic circuits.

Corequisites: EE 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 - Electromechanical Systems

Credits: 3

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.

Prerequisites: EE 385.

Corequisites: EE 430L.

EE 430L - Electromechanical Systems Lab

Credits: 1

Experimental work with electronic drives and electric machines.

Corequisites: EE 430.

EE 434 - Power Systems Analysis

Credits: 3

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.

Corequisites: EE 434L and EE 385.

EE 434L - Power Systems Analysis Lab

Credits: 1

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 434.

EE 436 - Photovoltaic Systems Engineering

Credits: 3

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.

Prerequisites: EE 320 and EE 360.

EE 436L - Photovoltaic Systems Engineering Lab

Credits: 1

This lab provides practical experience in the design of hybrid photovoltaic power systems.

Corequisites: EE 436.

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.

Registration Restriction: Instructor consent.

EE 447 - Advanced Power Systems (COM)

Credits: 3

Advanced topics in analysis of unbalanced/faulted three-phase systems using symmetrical components. Dispatch and coordination of interconnected systems. System protection, generation control, transmission line transient operation, and specialized problems in transient stability. Grid tie and DC link systems. The national regulatory environment. System simulation using Matlab, Simulink and PowerWorld.

Prerequisites: EE 431 or EE 434.

EE 454 - 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 - Sensor and Measurements

Credits: 2

Introduction to the operation, design, testing and applications of modern sensors in use and under development. Signal conditioning and system integration are also reviewed.

Prerequisites: EE 360.

Corequisites: EE 460L.

EE 460L - Sensor and Measurements Lab

Credits: 1

Laboratory to accompany EE 460.

Corequisites: EE 460.

EE 462L - Electronic Materials Lab

Credits: 1

An introduction to microelectronic fabrication techniques including evaporative and sputter deposition, photolithography, mask design, and packaging.

Registration Restriction: 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: Completion of or concurrent in enrollment in (EE 317, EE 321, EE 347, EE 360, and ENGL 277) or (EE 313, EE 314, EE 322, and ENGL 289).

Registration Restriction: Senior standing.

Corequisites: EE 422.

EE 465 - Senior Design Project II (COM)

Credits: 3

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.

Registration Restriction: Senior standing.

EE 469 - 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.

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 - 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

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.

EE 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.

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 - Research (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.

EES (Ecology and 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.

Notes: Spring.

EES 425 - Disturbance and Restoration Ecology

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.

Notes: Fall, even years.

EES 430 - Biological Invasions

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.

Notes: Fall, odd years.

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.

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.

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 - Research (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.

EHS (Education and Human Sciences)

EHS 119 - EHS Seminar

Credits: 2

This course is designed to holistically support and assist students in transitioning to the university. Students will identify their strengths and learn techniques for goal setting and academic success. Online, campus, and community resources are shared, and students receive guidance in academic planning, campus engagement, time and financial management, wellness topics, and other contemporary issues consistent with the mission of the university.

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 life beyond college, including the workplace. Areas such as conflict management, workplace etiquette, relationship development, and money management will be covered. This course is interdisciplinary in nature and relevant to all fields of study.

ELED (Elementary Education)

ELED 230 - Assessment and Classroom Management

Credits: 2

In this course, students explore multiple methods to assess learning in K-8 classroom settings, including formal and informal, diagnostic and screening, formative and summative assessments. Students also learn methods for motivation and student engagement through classroom design, small and large group instruction, and individual guidance and discipline.

ELED 310 - K-8 Methods of Music, Art and Drama (COM)

Credits: 2

In this course, students will learn how to use methods of music, art, and drama, in concert and infused with technology, as vibrant and integral parts of their teaching repertoire. Students will learn how these arts not only strengthen and solidify curriculum but also improve their own ability to teach and relate to their students. Students will develop an understanding of: the tools of inquiry of K-8 music, art, and drama; 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-8 music, art, and drama; the ability to assess student learning; and to apply these skills and attitudes to real life situations and experiences.

ELED 320 - K-8 Science Methods (COM)

Credits: 3

Students develop an understanding of the tools of inquiry of K-8 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 K-8 science; the ability to assess student learning in K-8 science; and to apply these knowledge, skills, and attitudes to real life situations and experiences.

ELED 330 - K-8 Math Methods (COM)

Credits: 3

Students develop an understanding of the tools of inquiry of K-8 math; 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-8 math; the ability to assess student learning in K-8 math; and to apply these knowledge, skills, and attitudes to real life situations and experiences.

ELED 360 - K-8 Social Science Methods (COM)

Credits: 3

Students develop an understanding of the tools of inquiry of K-8 social studies; 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-8 social studies; the ability to assess student learning in K-8 social studies; and to apply these knowledge, skills, and attitudes to real life situations and experiences.

ELED 440 - K-8 Language Arts Methods (COM)

Credits: 3

Students develop an understanding of the tools of inquiry of K-8 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 K-8 language arts; the ability to assess student learning in K-8 language arts; and to apply these knowledge, skills, and attitudes to real life situations and experiences.

ELED 450 - K-8 Reading Methods (COM)

Credits: 3

Students develop an understanding of the research and tools of inquiry of K-8 reading, 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-8 reading, the ability to assess student learning in K-8 reading, and to apply these knowledge, skills, and attitudes to real life situations and experiences.

ELED 466 - P-12 ELL Curriculum, Instruction and Assessment (COM)

Credits: 3

Students will learn current research-based methods of instruction, curriculum development, and program assessment for P-12 English Language Learners.

ELED 471 - Foundations of Reading

Credits: 3

This course will promote awareness and application of the foundational skills necessary for beginning readers. Views of reading will be explored, as well as practical approaches for teaching literacy skills and engagement with books in the classroom. In addition, culturally responsive approaches to reading instruction and the use of notable children's literature will be explored.

Cross-Listed: ECE 471.

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 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.

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 - 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 - 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 or consent.

ENGL (English)

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.

Corequisites: ENGL 101.

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, HSDC]

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 033, ENGL 039, or appropriate placement based on standardized testing.

Notes: Course meets SGR #1.

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, HSDC]

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, HSDC]

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 221 - British Literature to 1800 (COM) [SGR #4, HSDC]

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 Since 1800 (COM) [SGR #4, HSDC]

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, HSDC]

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 to 1865 (COM) [SGR #4, HSDC]

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 Since 1865 (COM) [SGR #4, HSDC]

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, HSDC]

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, HSDC]

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 268 - Literature (COM) [SGR #4, HSDC]

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, HSDC]

Credits: 3
Study and practice of technical writing in Engineering and related disciplines
Prerequisites: ENGL 101.
Notes: Course meets SGR #1.

ENGL 283 - Introduction to Creative Writing (COM) [SGR #1, HSDC]

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, HSDC]

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 383 - Creative Writing I (COM)

Credits: 3
Study and practice in the techniques of writing fiction, poetry, and/or drama.
Prerequisites: ENGL 201 or ENGL 283 or ENGL 284.

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: ENGL 201 or ENGL 283 are *recommended* prerequisites.
Registration Restriction: Junior standing.
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.

ENGL 471 - Academic Editing and Publishing

Credits: 3
Theory and practice of academic editing and publishing with emphasis on academic journals.

ENGL 472 - Film Criticism (COM)

Credits: 3
Theory and practice of various critical approaches to film.

ENGL 473 - Creative Writing: Screenwriting (COM)

Credits: 3
Advanced study of the writing process concentrating on screenwriting.
Prerequisites: ENGL 283.

ENGL 475 - Creative Writing: Non-Fiction (COM)

Credits: 3
Advanced study of the writing process concentrating on non-fiction.
Prerequisites: ENGL 283.

ENGL 476 - Creative Writing: Fiction (COM)

Credits: 3
Advanced study of the writing process concentrating on fiction.
Prerequisites: ENGL 283.

ENGL 478 - Creative Writing: Poetry (COM)

Credits: 3
Advanced study of the writing process concentrating on poetry.
Prerequisites: ENGL 283.

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. *Recommended* prerequisites are ENGL 201 or ENGL 283.
Registration Restriction: Senior standing.

ENGL 483 - 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 485 - Writing Center Tutoring

Credits: 3
Theory and practice of peer tutoring and mentoring models in university writing centers.

ENGL 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.

ENGL 492 - Topics (COM)

Credits: 1-5
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.

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.

ENTR (Entrepreneurship)

ENTR 236 - Fundamentals of Innovation and Creativity

Credits: 3

Students will learn to think creatively and identify the resources needed to transform ideas into viable ventures. With a strong emphasis on experiential learning, the course guides students through the process of developing opportunities based on individual interests, abilities, experiences, and social and professional networks.

ENTR 238 - Product Development and Market Discovery

Credits: 3

Students will explore key fundamentals of market feasibility analysis, customer discovery methods, and the core principles of design thinking. Using best-practices tools and techniques, they will develop and refine sustainable business strategies aligned with a clear product vision. This course emphasizes hands-on projects and practical applications, preparing students to identify customer needs, assess market opportunities, and create innovative solutions

ENTR 305 - Innovation Studio

Credits: 1

This course allows students to put innovation and entrepreneurship principles into action by developing a new product or venture idea. Working individually or in teams, students will create a commercially viable concept with a defined customer value proposition and a clear pathway from production to sales. The course includes mentoring and coaching from entrepreneurship faculty, complemented by independent work.

Registration Restriction: Instructor consent.

ENTR 337 - Entrepreneurship Development

Credits: 3

This course provides an in-depth exploration of compliance and operational challenges faced by new businesses. Topics include business structures and registration, sales/use and other tax obligations, banking and financing, hiring practices, company policy development, financial statements and reporting, and intellectual property. Each student will create a compliance requirements report tailored to a venture they design.

Prerequisites: ENTR 238.

ENTR 338 - Pathways to Launching and Growing a Venture

Credits: 3

Students will explore various pathways to launching a new venture by studying frameworks on market and customer development, business models, financial feasibility analysis, and business ethics. They will apply these concepts by developing individual new venture prototypes.

Prerequisites: ENTR 337.

ENTR 410 - Entrepreneurial Strategy

Credits: 3

Students will examine a range of venture growth and exit strategies, including bootstrapping, acquisitions, and franchising. They will practice analyzing financial information, explore funding techniques such as traditional financing and external equity, and learn valuation methods for both pre- and post-revenue ventures. The course culminates in a venture-focused project designed to advance students' entrepreneurial goals

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.

Registration Restriction: Senior standing.

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 financiers and/or investors.

Prerequisites: ENTR 338.

Registration Restriction: 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.

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.

ENTR 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.

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.

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.

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.

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.

ET (Electronics Technology)

ET 122 - Introductory Circuits

Credits: 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.

Corequisites: ET 122L.

ET 122L - Introductory Circuits Lab

Credits: 2

Laboratory to accompany ET 122.

Corequisites: ET 122.

ET 210 - Introduction to Electronic Systems

Credits: 3

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. Troubleshooting methods, measurement techniques, introductory circuit board design, and soldering fundamentals are also explored.

Prerequisites: MATH 114.

Corequisites: ET 210L.

ET 210L - Introduction to Electronic Systems Lab

Credits: 1
Laboratory to accompany ET 210.
Corequisites: ET 210.

ET 220 - Analog Electronics

Credits: 3
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 220L.

ET 220L - Analog Electronics Lab

Credits: 1
Laboratory to accompany ET 220.
Corequisites: ET 220.

ET 225 - Analog Devices II

Credits: 2
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.
Corequisites: ET 225L.

ET 225L - Analog Devices II Lab

Credits: 1
Lab to accompany ET 225.
Corequisites: ET 225.

ET 230 - Introductory Digital

Credits: 3
Binary and hexadecimal number systems, switching theory, Boolean Algebra, logic diagrams, Karnaugh mapping, counter circuits, and pulse circuits.
Prerequisites: ET 210.
Corequisites: ET 230L.

ET 230L - Introductory Digital Lab

Credits: 1
Laboratory to accompany ET 230.
Corequisites: ET 230.

ET 232 - Digital Electronics and Microprocessors

Credits: 2
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.
Prerequisites: ET 210.
Corequisites: ET 232L.

ET 232L - Digital Electronics and Microprocessors Lab

Credits: 1
Laboratory to accompany ET 232.
Prerequisites: ET 210.
Corequisites: ET 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.

ET 245 - Digital Devices II

Credits: 2
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.
Corequisites: ET 245L.

ET 245L - Digital Devices II Lab

Credits: 1
Lab to accompany ET 245.
Corequisites: ET 245.

ET 253 - Automation, Controls and PLCs

Credits: 2
Automation technology used in industry: PLC devices, motion controls, power monitoring, sensors, and vision systems; set up, programming, and troubleshooting.
Corequisites: ET 253L.

ET 253L - Automation, Controls and PLCs Lab

Credits: 1
Lab to accompany ET 253.
Corequisites: ET 253.

ET 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.

ET 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.

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 - Advanced Analog Electronics

Credits: 3
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 and MATH 121.
Corequisites: ET 325L.

ET 325L - Advanced Analog Electronics Lab

Credits: 1
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.
Corequisites: ET 325.

ET 330 - Microcontrollers and Networks

Credits: 2
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 232 and (CSC 150 or OM 240).
Corequisites: ET 330L.

ET 330L - Microcontrollers and Networks Lab

Credits: 1
Laboratory to accompany ET 330.
Corequisites: ET 330.

ET 332 - Advanced Digital Electronics

Credits: 2
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.
Corequisites: ET 332L.

ET 332L - Advanced Digital Electronics Lab

Credits: 1
Laboratory to accompany ET 332.
Corequisites: ET 332.

ET 345 - Power Systems

Credits: 2

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.

Corequisites: ET 345L.

ET 345L - Power Systems Lab

Credits: 1

Laboratory experience to accompany ET 345.

Corequisites: ET 345.

ET 370 - Data Acquisition

Credits: 2

Hardware and software used in data acquisition systems. Instrumentation, application testing, sensor interfaces, automated control systems and fault detection will be covered.

Registration Restriction: Instructor consent.

Corequisites: ET 370L.

ET 370L - Data Acquisition Lab

Credits: 1

Laboratory to accompany ET 370L.

Corequisites: ET 370.

ET 380 - Circuit Boards and Design

Credits: 2

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.

Corequisites: ET 380L.

ET 380L - Circuit Boards and Design Lab

Credits: 1

Laboratory to accompany ET 380.

Corequisites: ET 380.

ET 426 - Communication Systems

Credits: 2

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 325.

Corequisites: ET 426L.

ET 426L - Communication Systems Lab

Credits: 1

Laboratory to accompany ET 426.

Corequisites: ET 426.

ET 451 - Industrial Controls and PLCs

Credits: 2

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.

Prerequisites: ET 210.

Corequisites: ET 451L.

ET 451L - Industrial Controls and PLCs Lab

Credits: 1

Laboratory to accompany ET 451.

Prerequisites: ET 210.

Corequisites: ET 451.

ET 471 - Capstone Experience

Credits: 2

Technical projects developed in Project Management are completed. Student teams present results in a public venue.

Prerequisites: GE 470 and ET 325.

ET 472 - Networking I

Credits: 3

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.

ET 472L - Networking I Lab

Credits: 1

Laboratory to accompany ET 472.

Corequisites: ET 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.

ET 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.

ET 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.

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 - 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.

EXPL 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.

EXPL 362 - Global Tech Experience

Credits: 1-6

This course is designed to give students an opportunity to get in-demand experiences and skills to complement their major. The four tracks (Digital Marketing, Coding for the Web, Data Analytics, and Data Coding) are based on key areas of demand in the labor market, and each includes a capstone project co-designed with a global company, where students tackle a real business challenge.

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 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.

EXPL 487 - 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: 1-6

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.

EXPL 492 - 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.

EXS (Exercise Science)

EXS 101 - The Exercise Science Major

Credits: 2

This course will explore the foundations of exercise science, including the history and evolution of the field. Students will gain insight into career opportunities and professional organizations while exploring concepts related to health and human performance.

EXS 350 - Exercise Physiology (COM)

Credits: 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 - Prevention and Care of Athletic Injuries (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.

Corequisites: EXS 354L.

EXS 354L - Prevention and Care of Athletic Injuries Lab (COM)

Credits: 1

Required skills component for application of practical injury recognition; preventive and rehabilitative exercises; and taping, bandaging, wrapping, and splinting.

Corequisites: EXS 354.

EXS 367 - Health and Human Performance

Credits: 2

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.

Prerequisites: EXS 350 or PE 350.

Corequisites: EXS 367L.

EXS 367L - Health and Human Performance Lab

Credits: 1

Laboratory to accompany EXS 367.

Corequisites: EXS 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 - Exercise Test and Prescription (COM)

Credits: 2

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: Completion of or concurrent enrollment in KSM/PE/EXS 350.

Corequisites: EXS 400L.

EXS 400L - Exercise Test and Prescription Lab (COM)

Credits: 1

This course will provide hands-on experience in the laboratory to supplement the theoretical classroom discussion in EXS 400 and will prepare the student to take entry-level certification such as the American College of Sports Medicine Health and Fitness Instructor Certification.

Corequisites: EXS 400.

EXS 420 - Group Exercise and Facility Management

Credits: 1

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.

Prerequisites: EXS 400.

EXS 420L - Group Exercise and Facility Management Lab

Credits: 1

Laboratory to accompany EXS 420.

EXS 450 - Clinical Exercise Physiology (COM)

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 - Biomechanics (COM)

Credits: 2

This course emphasizes the mechanical principles of human movement (including muscular and skeletal principles) during physical education, wellness, and sport. Prerequisites: EXS 250 or PE 250 or EXS 353 or PE 353 or KSM 353 or BIOL 221 or PHGY 220 or HSC 280.

EXS 454L - Biomechanics Lab (COM)

Credits: 1

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.

Corequisites: EXS 454.

EXS 455 - 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.

Registration Restriction: 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 498 - Research (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.

FCSE (Family and Consumer Sciences Education)

FCSE 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.

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 305 - 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. Registration Restriction: Sophomore status in education program.

Corequisites: FCSE 295.

Cross-Listed: AGED 305.

Notes: For prospective teachers in agriculture or family and consumer sciences education.

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 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.

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 - Work Based Learning

Credits: 2

In this course, the student will learn the importance of work-based learning programs, establish communication skills that include community needs into student programming, and develop curriculum for a complete work-based learning program.

Cross-Listed: AGED 431.

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.

Registration Restriction: Senior standing and admittance into the Teacher Education Program and PS III.

FCSE 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.

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.

FIN (Finance)

FIN 280 - Personal Finance (COM) [HSDC]

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.

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.

FIN 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: FIN 280.

FIN 411 - 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: FIN 310.

FIN 412 - Security Analysis (COM)

Credits: 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: FIN 411.

FIN 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: FIN 310.

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: FIN 310 or AGECE 478.

FIN 417 - 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: FIN 310.

FIN 420 - 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 431 - Family Investment Planning

Credits: 3

An in-depth study of investment options for clients, this course will include common stocks, fixed income securities, convertible securities, and related choices. Relationships between investment options and employee/employer benefit plan choices will be studied. Current and emerging issues, and ethics will be an integral part of the course.

Prerequisites: FIN 280.

FIN 432 - Family Insurance Planning

Credits: 3

An in-depth study of risk management concepts, tools, and strategies for individuals and families, including life insurance; property and casualty insurance liability insurance; accident, disability, health and long-term care insurance; and government-subsidized programs; current and emerging issues, as well as ethical considerations, relative to risk management will be discussed. Case studies will provide experience in selecting insurance products suitable for individuals and families.

Prerequisites: FIN 280.

FIN 433 - Family Estate Planning

Credits: 3

Fundamentals of the estate planning process will be studied, including estate settlement, estate and gift taxes, property ownership and transfer, and powers of appointment. Tools and techniques used in implementing an effective estate plan; ethical considerations in providing estate planning services and new and emerging issues in the field will be explored. Case studies will provide experience in developing estate plans suitable for varied family forms.

Prerequisites: FIN 280.

FIN 434 - Family Retirement Planning

Credits: 3

Study of micro and macro considerations for retirement planning. Survey of various types of retirement plans, ethical considerations in providing retirement planning services, assessing and forecasting financial needs in retirement, and integration of retirement plans with governmental benefits.

Prerequisites: FIN 280.

FIN 435 - Family Tax Planning

Credits: 3

This course provides in-depth information of income tax practices and procedures including tax regulations, tax return preparation, the tax audit processes, the appeals process, preparation for an administrative or judicial forum, and ethical considerations of taxation. New and emerging issues related to taxation will be covered. Family/individual case studies provide practice in applying and analyzing tax information and recommending appropriate tax strategies.

Prerequisites: FIN 280.

FIN 439 - Family Financial Planning Capstone

Credits: 3

This course examines professional issues in financial planning, including ethical considerations, regulation and certifications requirements, communication skills, and professional responsibility. Students are expected to utilize skills obtained in other courses and work experiences in the completion of personal financial case studies, the development of a targeted investment policy, and other related financial planning assignments.

Prerequisites: FIN 431, FIN 432, FIN 433, FIN 434, and FIN 435.

FIN 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.

FIN 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.

FIN 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.

FIN 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.

FIN 498 - Research (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.

FREN (French)

FREN 101 - Introductory French I (COM) [SGR #4, HSDC]

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, HSDC]

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, HSDC]

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, HSDC]

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

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.

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.

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

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.

FREN 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.

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 - Applied Food Science

Credits: 3

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 and (CHEM 108 or CHEM 120 or CHEM 326).

Notes: Even Fall.

FS 341L - Applied Food Science Lab

Credits: 1

Lab to accompany FS 341.

Prerequisites: FS 101 and (CHEM 108 or CHEM 120 or CHEM 326).

Corequisites: FS 341.

Notes: Even Fall.

FS 351 - Principles of Food Processing

Credits: 2

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.

Notes: Odd Fall.

FS 351L - Principles of Food Processing Lab

Credits: 1

Laboratory to accompany FS 351.

Corequisites: FS 351.

Notes: Odd Fall.

FS 400 - Food Chemistry and Analysis

Credits: 3

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 or CHEM 326).

Notes: Fall.

FS 400L - Food Chemistry and Analysis Lab

Credits: 2

Laboratory to accompany FS 400.

Corequisites: FS 400.

Notes: Fall.

FS 451 - New Food Product Development

Credits: 3

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 and MICR 311.

Corequisites: FS 451L.

Notes: Even Spring.

FS 451L - New Food Product Development Lab

Credits: 1

Laboratory to accompany FS 451.

Corequisites: FS 451.

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.

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.

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 498 - Research (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.

FSRM (Fashion Studies and 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 - Ready-To-Wear Analysis

Credits: 2

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.

FSRM 231L - Ready-To-Wear Analysis Lab

Credits: 1

Laboratory experience to accompany FSRM 231.

Corequisites: FSRM 231.

FSRM 242 - Textiles I

Credits: 2

An investigation of fiber, yarn, fabrication, finishes and their interrelationship to specific end use and consumer satisfaction.

Registration Restriction: Sophomore standing.

Corequisites: FSRM 242L.

FSRM 242L - Textiles I Lab

Credits: 1

Laboratory experience to accompany FSRM 242.

Corequisites: FSRM 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 - Fashion Promotion

Credits: 2

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.

FSRM 274L - Fashion Promotion Lab

Credits: 1

Laboratory to accompany FSRM 274.

Corequisites: FSRM 274.

FSRM 315 - Apparel Design

Credits: 2

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.

FSRM 315L - Apparel Design Lab

Credits: 1

Laboratory to accompany FSRM 315.

Corequisites: FSRM 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 - Aesthetics

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.

FSRM 372 - Trending and Buying

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.

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 - Merchandising

Credits: 2

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 and MATH 114.

Corequisites: FSRM 472L.

FSRM 472L - Merchandising Lab

Credits: 1

Laboratory component to FSRM 472 - Merchandising.

Corequisites: FSRM 472.

FSRM 473 - Global Sourcing

Credits: 2

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.

Corequisites: FSRM 473L.

FSRM 473L - Global Sourcing Lab

Credits: 1

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.

Corequisites: FSRM 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.

Prerequisites: FSRM 495.

FSRM 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.

FSRM 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.

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.

GDES (Graphic Design)

GDES 101 - Computer Graphics [HSDC]

Credits: 3

A non-programming introduction to drawing, photo-imaging and page layout design software emphasizing computer-generated design projects.

GDES 200 - 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.

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) and completion or concurrent enrollment in ART 112.

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 [HSDC]

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 (PHYS 111, PHYS 113, PHYS 115, and PHYS 211).

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

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.

GE 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.

GE 310 - Thinking in Systems

Credits: 1

This course will provide students with the skills to address complex problems through the foundations of systems thinking. Students will learn to characterize systems, map relationships, and understand perspectives. Students will demonstrate critical analysis of systems relevant to their interests and collaborate with peers on cross-disciplinary projects.

Cross-Listed: HON 310.

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 - 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 - 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 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.

Registration Restriction: Senior standing or instructor approval.

GE 471 - Capstone Experience

Credits: 2

Technical projects developed in Project Management are completed. Student teams present results in a public venue.

Prerequisites: GE 470.

GE 478 - Healthcare Systems Engineering Capstone I

Credits: 3

A systems approach to design, covering need analysis, design phases, design processes, economics, optimization, and success criteria. Students will work on an independent project which must be different than any previous design they have attempted.

Registration Restriction: Senior standing and Healthcare Systems Engineering majors only.

GE 479 - Healthcare Systems Engineering Capstone II

Credits: 3

A second semester continuation of HSE Capstone I. 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: GE 478.

GE 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.

GE 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.

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.

GEOG (Geography)

GEOG 101 - Introduction to Geography (COM) [SGR #3, HSDC]

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, HSDC]

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 - Physical Geography: Weather and Climate (COM) [SGR #6, HSDC]

Credits: 3

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.

Notes: Course meets SGR #6.

GEOG 131L - Physical Geography: Weather and Climate Lab (COM) [SGR #6, HSDC]

Credits: 1

Laboratory to accompany GEOG 131.

Corequisites: GEOG 131.

Notes: Course meets SGR #6.

GEOG 132 - Physical Geography: Natural Landscapes (COM) [SGR #6, HSDC]

Credits: 3

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.

Notes: Course meets SGR #6.

GEOG 132L - Physical Geography: Natural Landscapes Lab (COM) [SGR #6, HSDC]

Credits: 1

Laboratory to accompany GEOG 132.

Corequisites: GEOG 132.

Notes: Course meets SGR #6.

GEOG 200 - Introduction to Human Geography (COM) [SGR #3, HSDC]

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, HSDC]

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, HSDC]

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, HSDC]

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 Uncrewed Aircraft Systems

Credits: 3

This course provides an overview of Uncrewed 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 280 - Introduction to Remote Sensing

Credits: 3

A foundational course introducing students to the basics of remote sensing platforms, sensors, image processing, and applications. Emphasis is placed on observation and analysis of Earth's physical and cultural resources used in academic disciplines and professional industries. This course prepares students for advanced courses in remote sensing and geospatial technologies.

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.

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 343 - 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 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 - Introduction to GIS (COM)

Credits: 2

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 supplemental lectures, demos, and discussion.

Corequisites: GEOG 372L.

GEOG 372L - Introduction to GIS Lab (COM)

Credits: 1

Hands-on experience to apply basic concepts of Geographic Information Systems (GIS). Provides an overview of the functions and capabilities of ArcGIS Desktop GIS software and an introduction to the ArcGIS Spatial Analyst Extension.

Corequisites: GEOG 372.

GEOG 382 - Quantitative Research Methods in Geography

Credits: 2

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.

Notes: STAT 281 recommended.

GEOG 382L - Quantitative Research Methods in Geography Lab

Credits: 1

Laboratory to accompany GEOG 382.

Corequisites: GEOG 382.

GEOG 383 - Cartography

Credits: 2

This course explores the art and science of creating maps, encompassing the principles of graphic design, geographic information systems (GIS), and spatial data analysis to communicate geographic information effectively through map design. Topics include map projections, symbolization, generalization, color theory, and typography.

Corequisites: GEOG 383L.

GEOG 383L - Cartography Lab

Credits: 1

Hands-on experience using various software and applying cartographic methods and principles to create maps.

GEOG 384 - Advanced Cartography

Credits: 2

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.

GEOG 384L - Advanced Cartography Studio

Credits: 1

Laboratory to accompany GEOG 384.

Prerequisites: GEOG 383.

GEOG 386 - UAS Applications for Emergency Management

Credits: 3

This course provides an overview of small Uncrewed Aircraft Systems (sUAS) applications for Emergency Management. Topics include the emergency reconnaissance/response; emergency payloads; communications; search & rescue; damage, structural & risk assessment; accident/criminal investigation; logistics support; FEMA/Insurance documentation; disaster mapping; and disaster recovery/regeneration. This course will provide students with a comprehensive introduction to real-world emergency management using small uncrewed aircraft operations in conjunction with Federal, State, and other FAA-approved agencies.

GEOG 387 - UAS Photography and Videography

Credits: 3

This course provides instruction on drone photography and videography for recreational and professional applications. The course includes recreational photography/videography for non-certificated drone pilots and professional/commercial photography/videography for certified remote pilots. The course spans flight planning, aerial photo/video analysis, piloting techniques, and post-mission photo and video editing.

GEOG 401 - 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 - Soil Geography and Land Use Interpretation

Credits: 2

Relationship of soil characteristics and soil classification to land use interpretations. Laboratory exercises involve field and laboratory procedures used in soil survey investigations.

Prerequisites: GEOG 132, or PS 213, or consent of instructor.

Corequisites: GEOG 410L.

Cross-Listed: PRAG 410.

GEOG 410L - Soil Geography and Land Use Interpretation Lab

Credits: 1

Laboratory to accompany GEOG 410.

Corequisites: GEOG 410.

GEOG 415 - 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 416 - Global Climate Change (COM)

Credits: 3

The roles that greenhouse gases, atmosphere-ocean interactions, orbital cycles, plate tectonics, humans, and other factors have played in climate change on Earth from its origin to the present and what will influence climate change in the future.

GEOG 420 - 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.

GEOG 421 - 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 - 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 - 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 - 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.

GEOG 447 - 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 - 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 - 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 - 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 - 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 468 - Paleoclimatology

Credits: 3

The course examines major events in the history of Earth's climate, and methods of interpreting the geological and biological climate proxies. There is also an introduction to numerical modeling of climate, and a discussion of the utility of using models to reconstruct past climates. Students analyze paleoclimate data available online and use models to examine climate dynamics.

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 - Programming for Geospatial Data Analysis

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.

GEOG 473 - GIS: Data Creation and Integration (COM)

Credits: 2

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.

GEOG 473L - GIS: Data Creation and Integration Lab (COM)

Credits: 1

Hands-on experience to apply 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).

Corequisites: GEOG 473.

GEOG 474 - GIS: Vector and Raster Modeling

Credits: 2

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.

GEOG 474L - GIS: Vector and Raster Modeling Lab

Credits: 1

Hands-on experience to apply 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.

Corequisites: GEOG 474.

GEOG 475 - GIS Applications

Credits: 2

This course explores the latest software and its applications in Geographic Information Sciences.

Prerequisites: GEOG 372.

Corequisites: GEOG 475L.

GEOG 475L - GIS Applications Lab

Credits: 1

Hands-on experience to explore the latest software and its applications in Geographic Information Sciences.

Corequisites: GEOG 475.

GEOG 476 - Web GIS

Credits: 2

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.

Prerequisites: GEOG 372.

Corequisites: GEOG 476L.

GEOG 476L - Web GIS Lab

Credits: 1

Lab to accompany GEOG 476. Develop relevant skills to design and implement a Web GIS application.

Corequisites: GEOG 476.

GEOG 477 - Spatial Databases

Credits: 2

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.

Prerequisites: GEOG 372.

Corequisites: GEOG 477L.

GEOG 477L - Spatial Databases Lab

Credits: 1

Develop relevant skills to design and implement a spatial database.

Corequisites: GEOG 477.

GEOG 480 - Satellite Remote Sensing

Credits: 2

This course provides an introduction to basic principles and common techniques in satellite remote sensing. Students will gain basic knowledge of how satellite data are collected and processed and be able to do simple analysis for their own research purposes. Emphasis is placed on how to use satellite remote sensing to monitor the changing earth's surface.

Prerequisites: GEOG 280.

Corequisites: GEOG 480L.

GEOG 480L - Satellite Remote Sensing Lab

Credits: 1

Hands-on experience using various software, applying methods and principles, and processing satellite remote sensing data.

Corequisites: GEOG 480.

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 - UAS Remote Sensing

Credits: 2

This course provides an overview of the basics in theory, concepts, models and applications of Uncrewed Aircraft Systems (UAS)-based remote sensing. It includes foundations of photogrammetry, light ranging and detection (LiDAR), radiometric calibration, geometric correction, ortho-rectification, geo-referencing and mosaicking etc. This course focuses on implementation of various UAS sensors and imagery in environment, agriculture and surveying related projects and applications.

Corequisites: GEOG 483L.

GEOG 483L - UAS Remote Sensing Lab

Credits: 1

The lab is a hands-on experience using various software and the application of methods and principles of UAS remote sensing.

Corequisites: GEOG 483.

GEOG 485 - Advanced Satellite Remote Sensing

Credits: 2

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 480.

Corequisites: GEOG 485L.

GEOG 485L - Advanced Satellite Remote Sensing Lab

Credits: 1

Hands-on experience using various software and applying advanced methods and principles of satellite remote sensing.

Prerequisites: GEOG 480L.

Corequisites: GEOG 485.

GEOG 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.

GEOG 491 - Independent Study (COM)

Credits: 1-4

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.

GEOG 492 - Topics (COM)

Credits: 1-5

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.

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.

GER (German)

GER 101 - Introductory German I (COM) [SGR #4, HSDC]

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, HSDC]

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 192 - 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.

GER 201 - Intermediate German I (COM) [SGR #4, HSDC]

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, HSDC]

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

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.

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: 3

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

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.

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 435 - German Cultural 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 - 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 - 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.

GER 492 - Topics (COM)

Credits: 2-3

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.

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 - 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 - Service Learning

Credits: 1-3

Service-Learning in Gerontology, including service planning, interaction with community, and reflection.

Prerequisites: Instructor permission required.

GERO 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.

GERO 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.

GLST (Global Studies)

GLST 201 - Introduction to Global Studies [SGR #3, HSDC]

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.

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.

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.

Registration Restriction: 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 - 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.

Registration Restriction: 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.

GLST 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.

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.

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.

HDFS (Human Development Family Study)

HDFS 141 - Individual and the Family [SGR #3, HSDC]

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

Experiential-based introduction to professional contexts in human development and family studies. Students serve as volunteers in community-based human services, shadowing professionals to better understand professional roles and opportunities.

HDFS 210 - Lifespan Development (COM) [SGR #3, HSDC]

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.

HDFS 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.

HDFS 327 - Research and Evaluation Methods

Credits: 3

An introductory course to the principles, methods, and techniques of empirical social research with special emphasis on research in human development and family science. Topics include the fundamentals of the scientific method, ethical considerations in research, basic methods of quantitative and qualitative data collection and analyses, and strengths and weaknesses of various methods.

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 - 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 - 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 - 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.

Registration Restriction: Senior standing and Early Childhood Education - Birth to Grade 3 (B.S.) or Human Development and Family Science (B.S.) majors.

HDFS 451 - 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 - 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 - Professional Development

Credits: 3

The course will assist students in developing professional identities prior to a practicum experience and entering their chosen profession. Professional development, ethics, leadership, and workplace issues will be discussed.

Notes: This course will be taken the semester prior to enrolling in the practicum.

HDFS 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.

HDFS 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.

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, and HDFS 487.

Registration Restriction: Department consent.

HIST (History)

HIST 111 - World Civilizations I (COM) [SGR #4, HSDC]

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, HSDC]

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, HSDC]

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, HSDC]

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, HSDC] [CIV]

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 civics requirement.

HIST 152 - United States History II (COM) [SGR #3, HSDC] [CIV]

Credits: 3

Surveys development of the United States since the Civil War and Reconstruction.

Notes: Course meets SGR #3 civics requirement.

HIST 192 - 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.

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

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.

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 305 - Apocalypses

Credits: 3

A historical and socio-rhetorical analysis of ancient Jewish and Christian apocalyptic movements and literature with some attention to modern examples.

Cross-Listed: REL 305.

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 348 - Religion in American History (COM)

Credits: 3

This course will study religion as a force in American history from the Protestant Reformation in Europe through the present, examining a wide range of beliefs, practices, events, and historical figures. How have religious beliefs and communities both responded and contributed to historical change? What is American about religion in American history? To what degree has religion served as a source of liberation but also as source of oppression in American history?

Cross-Listed: REL 348.

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 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 - Folklore and Popular Culture of the U.S.

Credits: 3

Aspects of social and cultural development with major emphasis on the period since 1800. Themes include the study of folk culture, popular culture, 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 392 - 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.

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 - 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 - World Environmental History (COM)

Credits: 3

Examines the history of interactions between human cultures and the natural world from the 1400s to the present day.

Cross-Listed: AIS 419.

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.

HIST 440 - Ancient Greece (COM)

Credits: 3

A survey of Greek history from its beginning through the Hellenistic Age. Course not offered each year.

HIST 445 - 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 - Westward 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

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.

HIST 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.

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.

HIST 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.

HLTH (Health)

HLTH 100 - Wellness for Life (COM)

Credits: 1

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.

Corequisites: HLTH 100L.

HLTH 100L - Wellness for Life Lab (COM)

Credits: 1

This laboratory experience applies wellness concepts taught in HLTH 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 100.

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 250 - Pre-Professional First Aid and CPR (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 basic first responders, including nurses, teachers, athletic trainers, and other special interest groups.

HLTH 298 - Research (COM)

Credits: 20-48

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.

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 or HLTH 103.

HLTH 350 - Health Promotion Professional Development

Credits: 3

This course will examine the field of health promotion in terms of historical developments, professional standards, roles, theoretical foundations, ethics and emerging trends in public health. The course will also examine the capabilities and limitations of government, key health policy issues, and strategies for becoming an agent of change and reform. It will explore the role of health professionals in shaping public health policy, influencing social policy, and advocating for community-level changes.

HLTH 364 - Emergency Medical Technician (COM)

Credits: 3

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.

Registration Restriction: Written consent (current CPR certification at the level of BLS Healthcare Provider (American Heart Association)).

Corequisites: HLTH 364L.

Notes: This course does not certify students as an EMT; they must pass the National Registry exams.

HLTH 364L - Emergency Medical Technician Lab (COM)

Credits: 1

Laboratory course to accompany HLTH 364.

Registration Restriction: Written consent (current CPR certification at the level of BLS Healthcare Provider (American Heart Association)).

Corequisites: HLTH 364.

Notes: This course does not certify students as an EMT; they must pass the National Registry exams.

HLTH 405 - 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 - 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 451 - 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.

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 - Health Promotion Programming and Evaluation

Credits: 2

This course is designed to provide students with the knowledge and skills necessary to identify, plan, implement and evaluate a health program. Topics include program development, community needs assessment, implementation strategies, evaluation methods and effective presentation skills.

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 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.

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.

HMGT 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.

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.

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.

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.

HMGT 380 - Foodservice Operations and Purchasing Management

Credits: 3

A managerial and systems approach to foodservice operations and purchasing.

HMGT 381 - Quantity Food Production and Service

Credits: 1

Application of foodservice management principles in quantity food production, purchasing, and service.

Prerequisites: NUTR 141, NUTR 141L, (completion of or concurrent enrollment in HMGT 251), and HMGT 380.

Corequisites: HMGT 381L.

HMGT 381L - Quantity Food Production and Service Lab

Credits: 3

Lab to accompany HMGT 381.

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.

Registration Restriction: Junior 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.

Registration Restriction: Junior standing.

HMGT 480 - Introduction to Wine, Beer, and Spirits

Credits: 2

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.

Registration Restriction: Must be at least 21 years old.

Corequisites: HMGT 480L.

HMGT 480L - Introduction to Wine, Beer, and Spirits Lab

Credits: 1

Lab to accompany HMGT 480.

Registration Restriction: Must be at least 21 years old.

Corequisites: HMGT 480.

HMGT 481 - 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. 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.

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.

HMGT 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.

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 and 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.

HNS 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.

HNS 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.

HNS 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.

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 - Research (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.

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 - Introduction to Horticulture

Credits: 2

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.

HO 111L - Introduction to Horticulture Lab

Credits: 1

Laboratory to accompany HO 111.

Corequisites: HO 111.

HO 210 - Turf and Weed Management in Horticulture

Credits: 2

Introduction to basic maintenance and culture of turf grass, 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.

Prerequisites: HO 111 or PS 103.

Corequisites: HO 210L.

Cross-Listed: PS 210.

HO 210L - Turf and Weed Management in Horticulture Lab

Credits: 1

Turf and weed identification, control methods, and related activities will be addressed in the laboratory.

Corequisites: HO 210.

Cross-Listed: PS 210L.

HO 255 - Woody Plants

Credits: 3

Nomenclature, classification, identification and use of trees, shrubs and vines for the Northern Great Plains.

Prerequisites: HO 111 or BIOL 101.

Corequisites: HO 255L.

Cross-Listed: PS 255.

HO 255L - Woody Plants Lab

Credits: 1

Lab to accompany HO 255.

Corequisites: HO 255.

Cross-Listed: PS 255L.

HO 303 - Forest Ecology and Management

Credits: 2

The basics of environmental factors which control the growth of trees and forests and how forests in North America are managed.

Corequisites: HO 303L.

Cross-Listed: BOT 303.

HO 303L - Forest Ecology and Management Lab

Credits: 1

Laboratory to accompany HO 303.

Corequisites: HO 303.

Cross-Listed: BOT 303L.

HO 311 - Herbaceous Plants

Credits: 2

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 and BOT 201 or consent.

Corequisites: HO 311L.

Cross-Listed: PS 311.

HO 311L - Herbaceous Plants Lab

Credits: 1

Laboratory experience to accompany HO 311.

Corequisites: HO 311.

Cross-Listed: PS 311L.

HO 327 - Golf Course Design and Management

Credits: 2

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.

Corequisites: HO 327L.

HO 327L - Golf Course Design and Management Lab

Credits: 1

Laboratory to accompany HO 327.

Corequisites: HO 327.

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 or HO 111.

Cross-Listed: PS 345.

HO 383 - Principles of Crop Improvement

Credits: 2

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 demonstration.

Prerequisites: (PS 103 or HO 111) and (BIOL 103 or BIOL 153 or BOT 201).

Corequisites: HO 383L.

Cross-Listed: PS 383.

HO 383L - Principles of Crop Improvement Lab

Credits: 1

Laboratory to accompany HO 383.

Corequisites: HO 383.

Cross-Listed: PS 383L.

HO 411 - 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.

HO 413 - Greenhouse and High Tunnel Management

Credits: 2

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.

Cross-Listed: PS 413.

HO 413L - Greenhouse and High Tunnel Management Lab

Credits: 1

Laboratory to accompany HO 413.

Corequisites: HO 413.

Cross-Listed: PS 413L.

HO 414 - Plant Propagation

Credits: 2

Fundamental anatomical and physiological principles and methods of reproducing herbaceous and woody plants by seeds, cuttings, grafts, layers and division.

Prerequisites: HO 111 and BOT 201 or consent.

Corequisites: HO 414L.

Cross-Listed: PS 414.

HO 414L - Plant Propagation Lab

Credits: 1

Lab to accompany HO 414.

Corequisites: HO 414.

Cross-Listed: PS 414L.

HO 416 - 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.

HO 426 - Production of Wine Beer Spirits

Credits: 2

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.

Registration Restriction: Participants must be 21 years of age or older to enroll.

Corequisites: HO 426L

Cross-Listed: NUTR 426 and PS 426.

HO 426L - Production of Wine Beer Spirits Lab

Credits: 1

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.

Registration Restriction: Participants must be 21 years of age or older to enroll.

Corequisites: HO 426.

Cross-Listed: NUTR 426L and PS 426L.

HO 434 - 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.

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 - 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.

HO 447 - 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.

HO 475 - Senior Capstone

Credits: 3

A current horticulture/local food-based research project in a field plot or greenhouse setting is assigned to a small student team. Student teams will use scientific methods and statistical analysis tools to solve the problem.

Registration Restriction: Senior standing.

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.

HO 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.

HO 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.

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 - Research (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.

PS 414L - Plant Propagation Lab

Credits: 1

Lab to accompany PS 414.

Corequisites: PS 414.

Cross-Listed: HO 414L.

HON (Honors)

HON 110 - 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 210 - Leadership for Change

Credits: 1

Students in this course will examine leadership principles and skills associated with change. Content will focus on reasons for change, initiating change, and barriers to change in the context of leadership. Students will investigate their own leadership style and learn how to leverage partnerships and transdisciplinary approaches when faced with change.

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.

HON 310 - Thinking in Systems

Credits: 1

This course will provide students with the skills to address complex problems through the foundations of systems thinking. Students will learn to characterize systems, map relationships, and understand perspectives. Students will demonstrate critical analysis of systems relevant to their interests and collaborate with peers on cross-disciplinary projects.

HON 346 - Honors Collaborative Discovery and Innovation

Credits: 1

Students will develop foundations for success in the Honors Capstone. Working collaboratively, students from all disciplinary backgrounds will explore historical and modern examples of discovery and innovation that exemplify best practices in research, scholarship, and/or creative activity. This course serves as a strong launching point for the Honors Capstone and provides insight into some of the greatest discoveries and innovations of our time.

HON 376 - The Justice Challenge

Credits: 2

This common, grounding experience introduces students to the scope of a Grand Challenge theme. Possible themes include food, climate, and sustainable agriculture. The eight-week intensive course provides the context and science-based content knowledge that students will need to credibly take on the challenges of the world related to the theme. In addition, the course provides students with professional development and team-building opportunities with experts from the region and beyond.

HON 377 - Honors Hackathon

Credits: 1

Students from multiple disciplines will form working teams and develop innovative solutions for a complex, real-world problem. Students will use critical thinking to consider workability, feasibility, and usability of possible solutions. The experience will conclude with students presenting their ideas to faculty and professionals in the field.

HON 378 - Honors Design Challenge

Credits: 3

The Design Challenge is an opportunity for students to identify and propose solutions to a local problem. The course emphasizes design thinking, creativity, critical thinking, and collaboration applied to solutions for issues affecting local communities. Understanding the interrelationships and complexities of multi-faceted problems is central to each project.

HON 383 - Honors Colloquium

Credits: 1-3

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.

HON 410 - Innovation and Impact

Credits: 1

In this course, students will consider how they can leverage their knowledge and skills in service to their broader communities. Students will explore interdisciplinary approaches to complex problems and innovative ideas in their fields of interest. These explorations will allow students to intentionally advance toward their own goals while also considering the larger impact they can have on the world.

HON 482 - Travel Studies

Credits: 1-3

This travel study course is designed to provide extramural 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. Includes pre-travel coursework and post-travel reflection.

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.

HON 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.

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.

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 - Research (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.

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: MGMT 360 or AGECE 371 or (completion of or concurrent registration in BADM 369).

HRM 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.

HRM 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.

HRM 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.

HRM 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. Permission of instructor and/or College Dean is required. (On demand)

HRM 498 - Research (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.

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.

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.

HSC 203 - Culturally-Based Indigenous Health

Credits: 3

This course will explore aspects of health (trauma, mental, physical, spiritual) specifically related to Indigenous people and how it relates to care of self, community, environment, and culture.

Registration Restriction: Enrollment in the Wizipan Leadership and Sustainability program.

HSC 212 - Contemporary Health Problems

Credits: 2

This course is a comprehensive course exploring the most pressing health challenges facing individuals across the lifespan. This course emphasizes the knowledge essential in maintaining a healthy lifestyle.

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.

HSC 250 - Healthcare Terminology in the Clinical Setting (COM) [HSDC]

Credits: 3

Healthcare practitioners utilize specialized terminology common across the healthcare professions. This course serves as a solid foundation to enhance understanding of the specialized terminology and jump-start learning for those students interested in a large variety of health care careers. Realistic patient case studies provide the opportunity for application and enhanced retention of the healthcare terminology.

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 262 - Health Careers Exploration (COM) [HSDC]

Credits: 3

This course is designed for students with an interest of working in the healthcare industry. Emphasis is placed on student identification of individual goals and assessment of talents. Career options are explored and job market is analyzed. Students will learn how to search for employment, create resumes, cover letters, and conduct mock interviews. Academic plans for career pathways are developed.

HSC 301 - Theory of Innovative Healthcare Leadership

Credits: 3

This course provides the theoretical foundations of innovative healthcare leadership with an emphasis on applying and integrating knowledge and skills to develop practice-based problem-solving skills in healthcare environments focused on planning, assessment, leadership, social science, communication, and teamwork principles and applications within organizations.

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.

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 401 - Application of Innovative Healthcare Leadership

Credits: 2

This course provides a continued innovative healthcare leadership focus on planning, assessment, leadership, social science, communication, and teamwork applications for problem-solving in healthcare environments.

Prerequisites: HSC 301.

Corequisites: HSC 401L.

HSC 401L - Application of Innovative Healthcare Leadership Practicum

Credits: 1

Prerequisites: Students apply healthcare leadership concepts in the practicum setting.

Corequisites: HSC 401.

HSC 402 - 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 with a focus on contributing to the advancement of rural healthcare.

HSC 410 - Current Rural Healthcare Trends

Credits: 3

This course provides a comprehensive overview of the dynamic landscape of rural healthcare. Students will explore the unique challenges and opportunities facing healthcare providers and communities in rural areas.

HSC 433 - 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.

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.

Registration Restriction: Junior or senior standing or instructor consent.

HSC 451 - Innovative Healthcare Leadership Capstone

Credits: 1

This course provides application of leadership concepts with specific goals and outcomes achieved with a community partner agency.

Prerequisites: HSC 401.

Corequisites: HSC 451L.

HSC 451L - Innovative Healthcare Leadership Capstone Practicum

Credits: 2

This course provides a field-based learning experience with specific goals and outcomes achieved with a community partner agency.

Corequisites: HSC 451.

HSC 452 - Interprofessional Issues in Health Care

Credits: 3

This interprofessional course will focus on the analysis of current issues and topics related to health care.

HSC 480 - Telehealth for the Interprofessional Team

Credits: 3

This course will provide an overview of telehealth as an innovative healthcare tool across multiple healthcare professions, including ethical and legal considerations, regulations, and best practices.

ID (Interior Design)

ID 112 - Drafting and Visualization

Credits: 3

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.

Corequisites: ID 251.

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.

Prerequisites: ID 112.

Corequisites: ID 212.

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: ARCH 230 and ARCH 230L.

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.

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.

Registration Restriction: 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: ARCH 230, ARCH 230L, and ID 215.

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.

ID 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.

ID 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.

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 and ID 352.

Registration Restriction: 2.2 GPA and senior standing.

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.

Notes: Spring only.

INFO (Informatics)

INFO 101 - Introduction to Informatics [HSDC]

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.

INFO 102 - Data Ethics (COM) [SGR #3, HSDC]

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: DSGN 253.

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 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

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.

LA 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.

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 - Research (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.

LAKL (Lakota)

LAKL 101 - Introductory Lakota I (COM) [SGR #4, HSDC]

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, HSDC]

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 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.

LAKL 201 - Intermediate Lakota I (COM) [SGR #4, HSDC]

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, HSDC]

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.

LAKL 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.

LAKL 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.

LAKL 301 - Intermediate High Lakota I

Credits: 3

A continuation of basic Oceti Sakowin language through the intermediate-mid level up to the intermediate-high level, with an emphasis on reading, writing, speaking, and listening.

Prerequisites: LAKL 202.

LAKL 302 - Intermediate High Lakota II

Credits: 3

A continuation of basic Oceti Sakowin language through the intermediate-high level up to the advanced-low level, with an emphasis on reading, writing, speaking and listening.

Prerequisites: LAKL 301.

LAKL 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.

LAKL 420 - Oceti Sakowin Language Teaching Methods

Credits: 3

This course prepares students to apply their Oceti Sakowin Language (N/D/Lakota) proficiency to teaching. Students will gain an understanding of learning and community dynamics in teaching Oceti Sakowin Language, both Indigenous and Western approaches to education, and applied experience. Students will be prepared to develop their own curriculum and lesson plans, as well as strategies to continue to nurture their own language learning and speaking.

Prerequisites: LAKL 202.

LAKL 433 - Oceti Sakowin Language: History and Culture

Credits: 3

This course focuses on enhancing student proficiency in the Oceti Sakowin language through history and culture teachings. Students will engage with varied resources including oral histories, published narratives, and archival materials through the medium of Oceti Sakowin language. Students will develop research, presentational, and comprehension skills based on Oceti Sakowin history and culture.

Prerequisites: LAKL 301.

LAKL 444 - Oceti Sakowin Language: Transcription and Translation

Credits: 3

This course guides students through transcription and translation of the Oceti Sakowin language. Historic and contemporary resources will be used to develop research skills, enhance comprehension, acquire methods and tools, and further understand and demonstrate Oceti Sakowin cultural competency.

Prerequisites: LAKL 202.

LAKL 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.

LAKL 492 - 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.

LAKL 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.

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.

Registration Restriction: 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.

Registration Restriction: Sophomore standing or consent.

Notes: May be repeated for credit with consent of the LAS Coordinator.

LAS 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.

Registration Restriction: Junior standing.

LATI (Latin)

LATI 101 - Elementary Latin (COM) [SGR #4]

Credits: 4

An introduction to the Latin language with emphasis on Roman civilization.

Notes: Course meets SGR #4.

LATI 102 - Advanced Elementary Latin (COM) [SGR #4]

Credits: 4

An introduction to the Latin language with emphasis on Roman civilization.

Prerequisites: LATI 101.

Notes: Course meets SGR #4.

LATI 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.

LATI 201 - Intermediate Latin I (COM)

Credits: 3

Grammar review and selected readings from Latin authors. Suitable for students with one or two years of high school Latin.

Prerequisites: LATI 102.

LATI 202 - Intermediate Latin II (COM)

Credits: 3

Grammar review and selected readings from Latin authors. Suitable for students with one or two years of high school Latin.

Prerequisites: LATI 201.

LATI 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.

LATI 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.

LDR (Leadership)

LDR 210 - Foundations of Leadership

Credits: 3

Foundations of Leadership is designed to sharpen fundamental leadership skills and develop core competencies. The goal for the Foundations of Leadership course is to equip students with the knowledge and skills needed to achieve their goals within the classroom, for their 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 best practices. Students gain experience in creating effective teams, problem solving, decision making, conflict management, change management, understanding perceptual bias, and emotional intelligence through working in teams.

Registration Restriction: 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.

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.

LMNO (Leadership and 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

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.

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 and LMNO 201.

Registration Restriction: Junior standing.

LMNO 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.

LMNO 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.

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.

Prerequisites: Appropriate placement based on standardized testing.

Notes: This is a pre-college level course and no credit for MATH 021 will be granted for graduation. Grade assigned RS/RU.

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 a pre-college 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.

Notes: Credit for MATH 101 will not be granted to anyone who has previously received credit for MATH 114 or higher.

MATH 103 - Mathematical Reasoning (COM) [SGR #5, HSDC]

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, HSDC]

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, MATH 101, or MATH 103.

Notes: Course meets SGR #5.

MATH 115 - Precalculus (COM) [SGR #5, HSDC]

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, HSDC]

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 - Survey of Calculus (COM) [SGR #5, HSDC]

Credits: 4

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.

Prerequisites: MATH 114, MATH 115, MATH 120, or placement.

Notes: Course meets SGR #5.

MATH 121L - Survey of Calculus Lab [HSDC]

Credits: 1

A lab which supplements Math 121 and provides the opportunity to study applications in more detail.

Corequisites: MATH 121.

MATH 123 - Calculus I (COM) [SGR #5, HSDC]

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, MATH 116, MATH 120, or placement.

Corequisites: To take MATH 123 alone: MATH 115 or MATH 120 with grade of A or B or placement. To take MATH 123 with MATH 123L: MATH 115 or MATH 120 with grade of C or D or placement.

Notes: Course meets SGR #5.

MATH 123L - Calculus I Lab (COM) [HSDC]

Credits: 1

A lab which supplements MATH 123 and provides the opportunity to study applications in more detail.

Corequisites: MATH 123.

Notes: This course is required for students taking MATH 123 who earned a C or D in a College Level PreCalculus (MATH 115) or Trigonometry (MATH 120) course or those whose placement requires MATH 123 with MATH123L. This course is optional for all other students taking MATH 123.

MATH 125 - Calculus II (COM) [SGR #5, HSDC]

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 - Mathematics Professions 1 (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, HSDC]

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 - Mathematics Professions 2

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 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 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 an emphasis on using them to read, understand, evaluate, and create Mathematical Proofs.

Prerequisites: A grade of C or better in 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 completion or concurrent registration in EDFN 102.

MATH 270 - Computational Linear Algebra

Credits: 3

Topics include vectors, matrices, solving systems of linear equations, vector spaces and subspaces, orthogonality, linear transformations, eigenvalues and eigenvectors, and singular value decomposition. Emphasis on computational techniques and applications in data science.

Prerequisites: MATH 121 or MATH 123.

MATH 291 - Independent Study (COM)

Credits: 1-4

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.

MATH 292 - Topics (COM)

Credits: 1-5

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.

MATH 301 - Mathematics Professions 3

Credits: 2

In this course, students will prepare to continue in academia or to enter the workforce in a quantitative profession through activities designed to refresh mathematics skills and develop skills such as collaboration, analysis, research, and written and verbal communication of quantitative ideas.

Prerequisites: MATH 230.

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 or MATH 123 or MATH 125 or STAT 281.

MATH 345L - Mathematics for Primary Grades II Lab

Credits: 1

Lab to accompany MATH 345.

Corequisites: MATH 345.

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 - Mathematics Professions 4

Credits: 1-2

In this course, students will participate in individual research to learn, under faculty supervision, a mathematical topic which is not included in general coursework. Students will write a major paper and give a presentation based on this research.

MATH 412 - Linear Algebra (COM)

Credits: 3

A study of vector spaces, linear transformations, matrices, inner products, eigenvalues, eigenvectors, the methods of solution of systems of linear equations, and applications.

Prerequisites: Grade of D or better in MATH 125 or grade of C or better in MATH 250.

MATH 413 - Abstract Algebra I (COM)

Credits: 3

Introduction to the theory and applications of algebraic structures including groups, rings, and fields.

Prerequisites: Grade of C or better in MATH 253 or grade of D or better in (MATH 315 or MATH 316 or MATH 351 or CSC 251).

MATH 415 - 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 $\mathbb{R}^n$ may be considered.

Prerequisites: Grade of D or better in MATH 225 and (grade of C or better in MATH 253 or grade of D or better in 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 - HS Math: Advanced Perspectives

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 102.

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 - 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 - 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 - 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 - Independent Study (COM)

Credits: 1-4

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.

MATH 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.

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.

MCOM (Mass Communication)

MCOM 119 - First-Year Seminar in Communication and Journalism

Credits: 2

The first-year seminar course is 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 and diversity. In addition, this course is designed to expose students to the discipline-specific careers paths.

MCOM 151 - Introduction to Mass Communication (COM) [SGR #4, HSDC]

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, HSDC]

Credits: 3

Film as art; themes and inventions; films and society; introduction to the camera.

Notes: Course meets SGR #4.

MCOM 210 - Basic Media Writing (COM)

Credits: 3

Introduces students to gathering, evaluating and writing news.

Prerequisites: ENGL 101.

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 - Introduction to Digital Media (COM)

Credits: 3

An introduction to the basics of digital imagery and design for the news media.

MCOM 250 - Principles of Agricultural Communication

Credits: 3

This course provides an overview of agricultural communication within the U.S. mass media landscape. It covers the communication process, the role of media in reaching diverse audiences, and the use of various communication methods in agriculture. Topics include agricultural news writing, media careers, and the impact of media on agriculture.

MCOM 265 - Basic Photography (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.

MCOM 266 - Photojournalism (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.

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

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.

MCOM 311 - News Editing (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.

Prerequisites: MCOM 210.

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 - Video Production (COM)

Credits: 3

Training in field production and post-production skills for television and online media including camera operation, audio acquisition, and nonlinear editing.

MCOM 333 - Broadcast News Reporting

Credits: 3

Broadcast news videography, reporting, writing, podcasting, audio recording, and audio and video editing.

Prerequisites: MCOM 210.

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.

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 412 - Cultural Issues in Mass Communication

Credits: 3

From the perspectives of media creator, audience and source, this course uses a decolonizing lens to examine the ways culture impacts strategic storytelling and representation.

Cross-Listed: AIS 412.

MCOM 413 - 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 - 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 419 - 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.

MCOM 420 - Indigenized Media: Rising Voices in Digital Storytelling

Credits: 3

A deep dive into the works of Indigenous filmmakers, journalists, artists, bloggers, influencers and pop culture creators. The course focuses on the growth of the Native media industry, its influence on Native and non-Native publics and discourses, and the future of Indigenous storytelling.

Cross-Listed: AIS 420.

MCOM 430 - 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 433 - Advanced Broadcast News Reporting

Credits: 3

In-depth analysis and production of broadcast news, with training in videography, reporting, writing, podcasting, audio recording, and audio and video editing.

Prerequisites: MCOM 331 and MCOM 333.

MCOM 434 - Advanced Multiplatform Storytelling

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 265 or MCOM 331 or MCOM 333 or MCOM 334.

MCOM 435 - Agricultural Communication Capstone

Credits: 3

This capstone course is for students with an interest in agricultural communications. This course provides students with the opportunity to apply their agricultural communication skills through real-world projects. Students will create and evaluate communication strategies, utilizing various media to convey agricultural, scientific, and technical information to diverse audiences.

MCOM 438 - Watchdog Reporting

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.

Prerequisites: MCOM 210.

MCOM 474 - Entrepreneurial Media

Credits: 3

Business practices, newspaper, magazine, and broadcast management.

MCOM 485 - 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.

MCOM 491 - Independent Study (COM)

Credits: 1-4

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.

MCOM 492 - Topics (COM)

Credits: 1-5

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.

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 495 - Practicum (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.

MCOM 498 - Research (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.

ME (Mechanical Engineering)

ME 121 - Production and Fabrication Processes

Credits: 1

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.

ME 121L - Production and Fabrication Processes Lab

Credits: 1

Lab to accompany ME 121.

Corequisites: ME 121.

ME 212 - Mechanical Engineering Design Technologies

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 MATH 123 or MATH 125.

ME 230 - Engineering Design Methods

Credits: 3

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, ME 121L, and ME 212.

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 301 - Engineering Ethics and Economics

Credits: 1

This course covers engineering economics and ethics, making sound financial decisions for engineering projects, and the implications of those decisions. Emphasis will be on ethical decision making in the engineering design process. Registration Restriction: Junior standing.

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 207 or 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: (MATH 225 and ME 211 and ME 221) or (ME 311 with a C or better 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 207 or 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 - Metallurgy

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.

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 - Measurements and Materials Characterization Lab

Credits: 1

This lab course builds a strong foundation in collecting and analyzing data, and communicating technical results. Lab exercises will introduce students to data analysis for accuracy, error, and uncertainty, conducting experiments related to material property characterizations and standard measurements.

Prerequisites: ME 241, ENGL 277, and completion of or concurrent enrollment in EM 321.

ME 377 - Thermodynamics and Fluid Mechanics Lab

Credits: 1

This course covers thermodynamics and fluid mechanics measurements. Students will explore experimental techniques and instrumentation as well as hands-on activities that demonstrate basic fluid and thermal science principles. Proper technical communication will be emphasized.

Prerequisites: Completion or concurrent registration in ME 311 and EM 331.

ME 410 - 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 - 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 - 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 - 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 - 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 - Computer-Aided Engineering

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 stresses and displacements that occur in non-uniform temperature structures, solutions of two- or three-dimensional fluid mechanics problems, and optimization techniques are discussed.

ME 418 - 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 - 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 - Non-Destructive Testing and Evaluation

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 - 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 439 - HVAC System Design

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 or consent.

ME 440 - 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 - 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 - 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 - 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 - 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, MATH 331 or MATH 471.

ME 452 - Mechatronics and Vibrations Lab

Credits: 1

This lab course provides hands-on experience for the characterization and implementation of mechatronics hardware components. Topics include studying sensors, actuators, and microprocessors while conducting experiments on mechanical vibrations, machine condition monitoring, and automation. Force and acceleration measurements of free and forced vibrations of mechanical systems.

Prerequisites: Completion or concurrent registration in ME 323 and ME 478.

ME 461 - 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 - Machine Components and Heat Transfer Lab

Credits: 1

This lab course provides hands-on experience on kinematic and kinetic analysis of machine components, conduction, convection, radiation, and heat exchange.

Prerequisites: Completion or concurrent registration in ME 415 and ME 421.

ME 478 - Mechanical Systems Design I

Credits: 3

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 - Mechanical Systems Design II (COM)

Credits: 3

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 - 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.

ME 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.

ME 492 - Topics (COM)

Credits: 1-5

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.

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 - Research (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.

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.

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.

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: MGMT 360.

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: FIN 310, BLAW 350, MKTG 370, and (MGMT 360 or BADM 369).

MGMT 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.

MGMT 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.

MGMT 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.

MGMT 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.

MGMT 498 - Research (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.

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

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.

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 - 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.

MFL 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.

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 - General Microbiology (COM) [SGR #6, HSDC]

Credits: 3

Principles of basic and applied microbiology.

Prerequisites: CHEM 106 or CHEM 112.

Corequisites: MICR 231L.

Notes: Course meets SGR #6.

MICR 231L - General Microbiology Lab (COM) [SGR #6, HSDC]

Credits: 1

Laboratory experience that accompanies MICR 231.

Corequisites: MICR 231.

Notes: Course meets SGR #6.

MICR 233 - Introductory Microbiology

Credits: 3

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.

Prerequisites: Completion of BIOL 151 and (CHEM 106 or CHEM 108 or CHEM 112 or CHEM 114).

Corequisites: MICR 233L.

MICR 233L - Introductory Microbiology Lab

Credits: 1

This 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.

Corequisites: MICR 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.

MICR 310 - Environmental Microbiology

Credits: 3

Microbiology of water, air and surfaces in the environment. Standard methods for detecting and controlling pathogens and non pathogens.

Prerequisites: MICR 231 or MICR 233.

Corequisites: MICR 310L.

MICR 310L - Environmental Microbiology Lab

Credits: 1

Laboratory to accompany MICR 310.

Corequisites: MICR 310.

MICR 311 - Food Microbiology

Credits: 2

Microbiology of fresh and processed meats, dairy products, vegetables and modern convenience foods. Laboratory quality study of food preservation, processing and spoilage.

Prerequisites: MICR 231 or MICR 233.

Corequisites: MICR 311L.

MICR 311L - Food Microbiology Lab

Credits: 2

Laboratory to accompany MICR 311.

Corequisites: MICR 311.

MICR 332 - Microbial Physiology

Credits: 2

Cytology, nutrition, metabolism, and growth of microorganisms.

Prerequisites: MICR 231 or MICR 233.

MICR 332L - Microbial Physiology Lab

Credits: 2

Media preparation, sterilization, microscopy, assay of microbial enzymes, DNA purification.

MICR 421 - Soil Microbiology

Credits: 2

Microbial species of agricultural soils, environmental factors affecting their numbers and activity, and biochemical changes brought about by these organisms.

Prerequisites: (BIOL 151, BIOL 151L, BIOL 153, and BIOL 153L) or (BOT 201 and BOT 201L).

Corequisites: MICR 421L.

Cross-Listed: PS 421.

MICR 421L - Soil Microbiology Lab

Credits: 1

Laboratory to accompany MICR 421.

Prerequisites: (BIOL 151, BIOL 151L, BIOL 153, and BIOL 153L) or (BOT 201 and BOT 201L).

Corequisites: MICR 421.

Cross-Listed: PS 421L.

MICR 424 - 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.

MICR 433 - 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 or CHEM 112) and (MICR 231 or MICR 233 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: Completion of or concurrent enrollment in MICR 448.

MICR 439 - 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 - 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.

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 or MICR 233.

MICR 490 - 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.

MICR 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.

MICR 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.

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 - Research (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.

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.

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: MKTG 370.

MKTG 475 - Consumer Behavior (COM)

Credits: 3

This course is a study of the various factors that influence consumers in their decisions relative to buying, using and disposing of goods, services and ideas. The course examines concepts and theories from the behavioral sciences and analyzes their application in developing marketing strategies.

Prerequisites: MKTG 370.

MKTG 476 - 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: MKTG 370 and (BADM 220 or MATH/STAT 281).

Cross-Listed: ECON 476.

MKTG 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.

MKTG 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.

MKTG 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.

MKTG 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.

MKTG 498 - Research (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.

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 - Hematology I

Credits: 3

Normal maturation, morphology, and function of blood cells.

Registration Restriction: MLS professional program acceptance required.

Corequisites: MLS 301L.

MLS 301L - Hematology I Lab

Credits: 1

Application of manual and automated methods/techniques in hematology.

Registration Restriction: MLS professional program acceptance required.

Corequisites: MLS 301.

MLS 310 - Laboratory Operations

Credits: 2

This course will provide an overview of basic operations within the medical laboratory including quality control, instrumentation, and laboratory math.

Registration Restriction: Medical Laboratory Science major.

MLS 311 - Clinical Chemistry I

Credits: 3

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 or equivalent.

Registration Restriction: MLS professional program acceptance required.

MLS 312 - MLT to MLS Transitional Experience

Credits: 4

A review of the introductory content and technical aspects of the medical laboratory science profession included Hematology, Clinical Chemistry, and laboratory math. Provides a transitional experience for current associate degree laboratory professionals into the advanced courses within the MLS curriculum.

Registration Restriction: 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.

Registration Restriction: 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.

Registration Restriction: MLS professional program acceptance required.

MLS 368 - Medical Laboratory Science Transfer Credit

Credits: 20-46

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.

Registration Restriction: MLS professional program or MLS Upward Mobility program acceptance required.

MLS 401 - Hematology II and Hemostasis

Credits: 3

Advanced study of hemostasis and hematopoietic disease states including anemias, leukemias, and myeloproliferative disorders.

Registration Restriction: MLS professional program acceptance required.

MLS 401L - Hematology II and Hemostasis Lab

Credits: 1

Advanced application of manual and automated methods/techniques in hematology and hemostasis.

Registration Restriction: 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.

Registration Restriction: MLS professional program acceptance required.

MLS 405 - Advanced Clinical Chemistry

Credits: 3

This course will provide comprehensive coverage of clinical chemistry principles including disease states and clinical applications.

Registration Restriction: Medical Laboratory Science major - Upward Mobility program.

MLS 406 - Hemostasis and Advanced Hematology

Credits: 3

This course will provide comprehensive coverage of hemostasis and advanced hematology principles including disease states and clinical applications.

Registration Restriction: Medical Laboratory Science major - Upward Mobility program.

MLS 411 - Clinical Chemistry II

Credits: 4

Advanced principle and theory of laboratory diagnostics in clinical laboratory, urinalysis, and body fluids.

Registration Restriction: MLS professional program acceptance required.

Corequisites: MLS 411L.

MLS 411L - Clinical Chemistry II Lab

Credits: 1

Methods of analysis in the clinical laboratory; instrumentation, quality control, and quality assurance.

Registration Restriction: MLS professional program acceptance required.

Corequisites: MLS 411.

MLS 412 - Laboratory Safety and Phlebotomy

Credits: 3

This course will provide a comprehensive overview of phlebotomy techniques and safe laboratory practices. Additionally, this course will cover patient confidentiality, specimen handling, and other best practices required in the medical laboratory.

Registration Restriction: MLS professional program acceptance required.

MLS 412L - Laboratory Safety and Phlebotomy Lab

Credits: 1

This course will provide a comprehensive overview of phlebotomy techniques and safe laboratory practices. Students will learn to perform venipuncture, capillary punctures, and other blood collection procedures, while adhering to strict infection control guidelines. Additionally, this course will cover patient confidentiality, specimen handling, and other best practices required in the medical laboratory.

Registration Restriction: MLS professional program acceptance required or Phlebotomy Certificate.

MLS 420 - Fundamentals of the Medical Laboratory

Credits: 2

This course will provide an overview of fundamental principles in the medical laboratory, including patient confidentiality, safety, specimen collection and processing, and laboratory math.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 421 - Foundations of Medical Chemistry

Credits: 4

This course will provide foundational concepts related to metabolism, analysis, and pathologies associated with various biomolecules in the medical chemistry laboratory. This course will also include quality control practices, methods, and principles relevant to medical chemistry.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 422 - Foundations of Hematology

Credits: 3

This course will provide foundational concepts related to hematopoietic cells including maturation, function, disease states, differentiation, and other laboratory applications related to hematology.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 423 - Foundations of Urine & Body Fluid Analysis

Credits: 2

This course will provide foundational concepts related to urine and body fluid analysis including practical application of simulated testing experiences, correlation, and interpretation of results.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 424 - Foundations of Medical Immunology

Credits: 2

This course will provide foundational concepts related to immunology and serological methods relating to the medical laboratory.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 425 - Foundations of Immunohematology

Credits: 2

This course will provide foundational concepts and laboratory applications in transfusion medicine.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 426 - Foundations of Medical Laboratory Microbiology

Credits: 3

This course will cover foundational concepts and applications in the medical microbiology laboratory.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 427 - Medical Chemistry Theory and Practice

Credits: 4

This course will build on foundational medical chemistry concepts with clinical applications in the medical laboratory.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 428 - Hematology and Hemostasis Theory and Practice

Credits: 5

This course will build on foundational hematology concepts and comprehensive hemostasis principles with clinical applications in the medical laboratory.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 429 - Immunohematology Theory and Practice

Credits: 3

This course will cover advanced testing in transfusion medicine with clinical applications in the immunohematology laboratory.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 430 - Medical Laboratory Microbiology Theory and Practice

Credits: 4

This course will cover human pathogens in humans with clinical applications in the medical microbiology laboratory.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

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.

Registration Restriction: 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.

Registration Restriction: MLS professional program acceptance required.

MLS 432 - Foundations of Molecular Methods

Credits: 1

This course will provide an overview of foundational molecular biology and clinical applications in the medical laboratory.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

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.

Registration Restriction: 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.

Registration Restriction: 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.

Registration Restriction: 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.

Registration Restriction: MLS professional program acceptance required.

MLS 461 - Leadership and Education in the Medical Laboratory

Credits: 3

This course will cover concepts in leadership, laboratory management, quality management, and education. Students will build critical thinking, problem solving, and professional skills.

Registration Restriction: MLS professional program acceptance required.

MLS 465 - Introductory Medical Laboratory Practice Intensive

Credits: 1

A hands-on intensive training experience in essential medical laboratory practices.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

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.

Registration Restriction: Acceptance into the MLS Upward Mobility program or permission of the instructor.

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.

Registration Restriction: Acceptance into the MLS Upward Mobility program or permission of the instructor.

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.

Registration Restriction: 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.

Registration Restriction: MLS professional program acceptance required.

Corequisites: MLS professional program acceptance required.

MLS 472 - Advanced Clinical Experience I

Credits: 5

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 476 - Clinical Practicum I

Credits: 4

Supervised clinical experience in hematology, hemostasis, phlebotomy, and general laboratory practice. This will include clinical correlations and analysis of patients in complex disease states.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 477 - Clinical Practicum II

Credits: 4

Supervised clinical experience in urine and body fluid analysis, clinical chemistry, and general laboratory practice. This will include clinical correlations and analysis of patient samples in complex disease states.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 478 - Clinical Practicum III

Credits: 3

Supervised clinical experience in microbiology, advanced molecular testing, and general laboratory practice. This will include clinical correlations and analysis of patient samples in complex disease states.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 479 - Clinical Practicum IV

Credits: 3

Supervised clinical experience in immunohematology and general laboratory practice. This will include clinical correlations and analysis of patient samples in complex disease states. Additionally, this course will provide a comprehensive review of medical laboratory science concepts.

Registration Restriction: Medical Laboratory Science major - Accelerated program.

MLS 483 - Medical Laboratory Capstone

Credits: 1-3

This course will evaluate students' ability to integrate and apply medical laboratory science knowledge and skills as well as their readiness to enter the workforce.

Registration Restriction: Senior status in the MLS professional program and clinical placement required.

MLS 487 - Elective Clinical Practice

Credits: 1-4

Supervised clinical experience in a variety of settings including hospital, clinic, and research laboratories.

Registration Restriction: MLS professional program acceptance required or Phlebotomy Certificate.

MLS 489 - Phlebotomy Clinical Experience

Credits: 1-3

Supervised clinical practice in phlebotomy.

Registration Restriction: 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.

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 - Parametric Modeling and Design

Credits: 2

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.

MNET 220L - Parametric Modeling and Design Lab

Credits: 1

Laboratory to accompany MNET 220.

Corequisites: MNET 220.

MNET 231 - Manufacturing Processes I

Credits: 2

The topics in this course cover the fundamentals of traditional and non-traditional 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.

MNET 231L - Manufacturing Processes I Lab

Credits: 1

Laboratory experience to accompany MNET 231.

Corequisites: MNET 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: 2

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: 1

Laboratory to accompany MNET 243.

MNET 251 - Electricity and Electronics I

Credits: 2

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 Lab

Credits: 1

Laboratory to accompany MNET 251.

MNET 252 - Electricity and Electronics II

Credits: 2

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 and MNET 251L.

Corequisites: MNET 252L.

MNET 252L - Electricity and Electronics II Lab

Credits: 1

Laboratory to accompany MNET 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 - CAM/CNC

Credits: 2

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.

Prerequisites: MNET 231 or GE 121 or GE 225.

Corequisites: MNET 334L.

MNET 334L - CAM/CNC Lab

Credits: 1

Laboratory experience to accompany MNET 334.

Corequisites: MNET 334.

MNET 367 - Production Strategy

Credits: 2

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 ME 121 or instructor consent.

Corequisites: MNET 367L.

MNET 367L - Production Strategy Lab

Credits: 1

Laboratory to accompany MNET 367.

Corequisites: MNET 367.

MNET 436 - Production Tooling Methods and Measurement

Credits: 2

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 220 and MNET 334.

Corequisites: MNET 436L.

MNET 436L - Production Tooling Methods and Measurement Lab

Credits: 1

Laboratory experience to accompany MNET 436.

Corequisites: MNET 436.

MNET 453 - Manufacturing Automation

Credits: 2

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.

Corequisites: MNET 453L.

MNET 453L - Manufacturing Automation Lab

Credits: 1

Laboratory to accompany MNET 453.

Corequisites: MNET 453.

MNET 460 - 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.

MNET 467 - Principles of Surface Mount Technology

Credits: 3

This course introduces students to automated surface mount technology circuit board assembly. Students will be provided an overview of the print, placement, reflow, and inspections processes involved. In depth discussion of process parameters, typical defects and how to correct them will be presented.

Prerequisites: MNET 367 and OM 462.

MNET 468 - 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 469 - Immersive Experience in Surface Mount Technology

Credits: 3

This course provides hands-on experiences in using state of the art automated surface mount technology circuit board assembly. Students will be provided an opportunity to learn about printing, placement, reflow, and inspection processes. Control of process parameters, typical defects and how to correct them will be practiced.

Prerequisites: MNET 467.

MNET 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.

MNET 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.

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 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 301 - Training Management and the Warfighting Functions (COM)

Credits: 3

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.

Corequisites: MSL 301L.

MSL 301L - Training Management and the Warfighting Functions Lab (COM)

Credits: 1

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 of ROTC advanced camp.

Corequisites: MSL 301.

MSL 302 - Applied Leadership in Small Unit Operations (COM)

Credits: 3

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.

Prerequisites: MSL 301.

Corequisites: MSL 302L.

MSL 302L - Applied Leadership in Small Unit Operations Lab (COM)

Credits: 1

Accompanies MSL 302.

Corequisites: MSL 302.

MSL 401 - The Army Officer (COM)

Credits: 3

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.

Corequisites: MSL 401L.

MSL 401L - The Army Officer Lab (COM)

Credits: 1

Designed to accompany MSL 401.

Corequisites: MSL 401.

MSL 402 - Company Grade Leadership (COM)

Credits: 3

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.

Corequisites: MSL 402L.

MSL 402L - Company Grade Leadership Lab (COM)

Credits: 1

Designed to accompany MSL 402.

Corequisites: MSL 402.

MSL 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.

MSL 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.

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.

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 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

An ensemble performing accompanied and unaccompanied literature.

MUEN 303 - Treble Choir (COM)

Credits: 0-1

An ensemble performing accompanied and unaccompanied literature.

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, HSDC]

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: 3

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: 1

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: 3

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: 1

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.

MUS 130 - Music Literature and History I [SGR #4, HSDC]

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, HSDC]

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, HSDC]

Credits: 3

An in-depth exploration of Country Music, beginning with Scotch-Irish folk music of the late 1600's, through the "New Traditionalists" of the 1990's.

Notes: Course meets SGR #4.

MUS 203 - Blues, Jazz, and Rock [SGR #4, HSDC]

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: 3

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: 1

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: 3

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: 1

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

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.

MUS 304 - Introduction to the Music Industry

Credits: 3

An exploration of the music business system. Students will understand the overall scope of the recording industry including markets, contracts, record production, promotion and distribution, retail, television and studio. Besides understanding the various aspects of the business, students will also be able to start choosing their career development path in a certain area.

MUS 306 - Copyright, Marketing and Music Publishing

Credits: 3

This course examines the major components of the music business including music publishing, copyright, concert promotion, music product merchandising and arts management. Specific attention will be given to the ever-changing modern usage of 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 - Conducting (COM)

Credits: 2

General 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. Prerequisites: MUS 111.

MUS 361 - Music Education II: Conducting

Credits: 2

Section 1: Instrumental music methods and materials. Emphasis on rehearsal 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.

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.

MUS 362 - 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.

MUS 365 - Music Education IV: Supervision and Administration of School Music

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.

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

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.

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 447 - Sound Design for the Performing Arts

Credits: 3

This course will introduce students to basic principles and terminology of audio and sound design. Topics include script analysis and sound design for theatre, recording techniques for soloists and music ensembles, and sound reinforcement for theatre, jazz bands, marching bands, and other ensembles.

Cross-Listed: THEA 447.

MUS 491 - Independent Study (COM)

Credits: 1-4

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.

MUS 492 - Topics (COM)

Credits: 1-5

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.

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 - 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.

Notes: Odd Spring.

NE 437 - 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 and PHYS 113 or PHYS 213.

Cross-Listed: PHYS 437.

Notes: Even Spring.

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 - Research (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.

NRM (Natural Resource Management)

NRM 110 - People and the Environment [HSDC]

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.

Notes: Fall. This course does not count towards any majors or minors in the Department of Natural Resource Management.

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.

Notes: Fall.

NRM 200 - Animal Diversity

Credits: 2

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.

Prerequisites: BIOL 101 or BIOL 151.

Corequisites: NRM 200L.

NRM 200L - Animal Diversity Lab

Credits: 1

Laboratory to accompany NRM 200.

Corequisites: NRM 200.

NRM 221 - Introduction to Conservation Planning and Management

Credits: 3

This course introduces students to key concepts and accepted practices in conservation planning and management. Students develop written and oral communication skills to address social-ecological challenges in conservation planning.

Notes: Fall, odd years.

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.

Notes: One week course in August.

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 - Natural Resource Statistics

Credits: 2

Analysis and interpretation of natural resources data that relate to assessment of research and management activities.

Prerequisites: MATH 114 or higher.

Corequisites: NRM 282L.

NRM 282L - Natural Resource Statistics Lab

Credits: 1

Lab to accompany NRM 282.

Corequisites: NRM 282.

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.

Notes: Spring.

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 or BIOL 153.

Cross-Listed: BIOL 311.

Notes: Fall.

NRM 321 - Park Interpretation

Credits: 3

This course introduces principles of park interpretation and professional standards of interpretation. Students learn how to communicate the value of natural and cultural resources as they build skills related to effective tours, sign design, exhibit curation, and educational programming.

Notes: Fall, even years.

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 410 - Conservation Biology (COM)

Credits: 3

This course is designed to merge the pure sciences of physiology, genetics, taxonomy, biogeography, and ecology with the applied fields of wildlife management, forestry, landscape ecology, and restoration ecology to address patterns and processes of biological diversity.

Prerequisites: BIOL 151.

Cross-Listed: BIOL 410.

NRM 441 - Wetland Ecology and Management

Credits: 3

This course will explore the physical, chemical, and biological dynamics of wetlands, with an emphasis on understanding types of wetlands, wetland hydrology, wetland soils, and wetland plants

NRM 450 - Freshwater Monitoring and Assessment

Credits: 2

This course will introduce policies 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 or STAT 281) and NRM 311.

Corequisites: NRM 450L.

Notes: Fall, even years.

NRM 450L - Freshwater Monitoring and Assessment Lab

Credits: 1

Laboratory to accompany NRM 450.

Corequisites: NRM 450.

Notes: Fall, even years.

NRM 464 - 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 or STAT 281) and NRM 311.

Notes: Spring, even years.

NRM 466 - 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 or BIOL 153.

Cross-Listed: BIOL 466.

NRM 475 - Natural Resource Law Enforcement Investigations and Report Writing

Credits: 2

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: WL 420.

Corequisites: NRM 475L.

Notes: Fall.

NRM 475L - Natural Resource Law Enforcement Investigations and Report Writing Lab

Credits: 1

Laboratory experience to accompany NRM 475. This laboratory will be focused on applying law enforcement topics and skills to real-world situations in a constitutional and lawful manner.

Corequisites: NRM 475.

Notes: Fall.

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.

Notes: One week course in August.

NRM 482 - Natural Resource Management Biometry

Credits: 2

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 or STAT 281 or equivalent.

Corequisites: NRM 482L.

Notes: Spring.

NRM 482L - Natural Resource Management Biometry Lab

Credits: 1

Laboratory to accompany NRM 482.

Corequisites: NRM 482.

Notes: Spring.

NRM 485 - Integrated Natural Resource Management

Credits: 3

This capstone project-based course requires students to apply their previous knowledge of natural resource management to develop a comprehensive management plan. Students will work in small teams, drawing from a variety of majors to foster integrated problem-solving. Each team will focus on mastering the process of addressing natural resource challenges, considering ecological, social, policy, and economic factors. The course emphasizes the use of inquiry, analytical, integrative, and synthetic skills, as well as the ability to communicate findings effectively through both written and oral presentations.

Registration Restriction: Senior standing.

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.

NRM 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.

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 - Research (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.

NURS (Nursing)

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 225 - Clinical Application I

Credits: 3

This course provides opportunities for foundational nursing care of individuals and families across the lifespan within the on-campus clinical setting, including the simulation skills lab.

Registration Restriction: Admission to the nursing major.

Corequisites: NURS 228.

Notes: Must be enrolled in Semester 1 Nursing major.

NURS 228 - Assessment of Individuals and Populations Across the Lifespan

Credits: 4

This course introduces health assessment skills and nursing interventions across the lifespan.

Registration Restriction: Admission to the nursing major.

Corequisites: NURS 225.

Notes: Must be enrolled in Semester 1 Nursing major.

NURS 234 - Patient-Centered Care Concepts I

Credits: 2

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.

Registration Restriction: Admission to the nursing major.

Notes: Must be enrolled in Semester 1 Nursing major.

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.

Registration Restriction: Admission to the nursing major.

Notes: Must be enrolled in Semester 1 Nursing major.

NURS 246 - Professional and Population Health Nursing I

Credits: 2

This course introduces students to the foundational concepts of nursing professionalism and population health. Emphasis is placed on the role of the nurse in various settings, person-centered care, informatics, and communication.

Registration Restriction: Admission to the nursing major.

Notes: Must be enrolled in Semester 1 Nursing major.

NURS 258 - Nursing Principles and Application I: Assessment and Interventions

Credits: 2

This course introduces health assessment skills and selected nursing interventions.

Registration Restriction: Admission to the nursing major.

Corequisites: NURS 258L.

Notes: Must be enrolled in Semester 1 Nursing major.

NURS 258L - Nursing Principles and Application I: Assessment and Interventions Lab

Credits: 2

Lab to accompany NURS 258.

Registration Restriction: Admission to the nursing major.

Corequisites: NURS 258.

Notes: Must be enrolled in Semester 1 Nursing major.

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.

Registration Restriction: Admission to the nursing major.

Notes: Must be enrolled in Semester 1 Nursing major.

NURS 294 - 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.

NURS 300 - Transition to BSN

Credits: 3

This course presents foundational concepts associated with a baccalaureate-prepared nurse. Students will examine guiding principles of nursing practice associated with nursing's mission to society through professional identity and professional development.

Prerequisites: Admission to the RN to B.S.N. program.

NURS 301 - Emerging Issues in Nursing

Credits: 3

This course provides a synopsis of the evolving nursing profession. Students will explore emerging issues in nursing practice while examining trends in healthcare delivery.

Registration Restriction: Admission to the RN to B.S.N. program.

NURS 322 - Pharmacology

Credits: 3

Basics of pharmacology and therapeutics for nurses and others.

Prerequisites: BIOL 325 and NURS 323.

Registration Restriction: Admission to the nursing major.

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: BIOL 325.

Registration Restriction: Nursing majors, Nutrition and Dietetics majors, or Pharmaceutical Science majors.

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.

Notes: Requires completion of Semester 1 nursing major courses; Must be enrolled in Semester 2 Nursing major.

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.

Notes: Requires completion of Semester 1 nursing major courses; Must be enrolled in Semester 2 Nursing major.

NURS 338 - Client Centered Care I

Credits: 4

This course focuses on foundational health and illness concepts in nursing practice. Emphasis is placed on disease prevention, health promotion, and management of care across the lifespan.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 1 nursing major courses; Must be enrolled in Semester 2 Nursing major.

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.

Notes: Requires completion of Semester 2 nursing major courses; Must be enrolled in Semester 3 Nursing major.

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.

Notes: Requires completion of Semester 2 nursing major courses; Must be enrolled in Semester 3 Nursing major.

NURS 346 - Professional and Population Health Nursing II

Credits: 2

This course reinforces professional nursing and population health concepts. Emphasis is placed on interprofessional communication, healthcare systems, economics, and regulations.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 1 nursing major courses; Must be enrolled in Semester 2 Nursing major.

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.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 2 nursing major courses; Must be enrolled in Semester 3 Nursing major.

NURS 348 - Client Centered Care II

Credits: 4

This course focuses on health and illness concepts in nursing practice. Emphasis is placed on nursing care across the lifespan for specialty populations.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 2 nursing major courses; Must be enrolled in Semester 3 Nursing major.

NURS 351 - Pharmacology for Nursing Practice

Credits: 2

This course introduces competency in pharmacology fundamentals and classifications for application in nursing practice.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 1 nursing major courses; Must be enrolled in Semester 2 Nursing major.

NURS 353 - Clinical Judgment I

Credits: 2

This course introduces clinical judgment through discussion and reflection to bridge student learning between theory concepts and clinical experiences.

Registration Restriction: Admission to the nursing major.

Corequisites: NURS 365.

Notes: Requires completion of Semester 1 nursing major courses; Must be enrolled in Semester 2 Nursing major.

NURS 358 - Nursing Principles and Applications II: Interventions

Credits: 2

This course introduces selected nursing interventions and related assessment skills.

Corequisites: NURS 358L.

Notes: Requires completion of Semester 1 nursing major courses; Must be enrolled in Semester 2 Nursing major.

NURS 358L - Nursing Principles and Applications II: Interventions Lab

Credits: 2

Laboratory to accompany NURS 358; this course introduces selected nursing interventions and related assessment skills.

Corequisites: NURS 358.

Notes: Requires completion of Semester 1 nursing major courses; Must be enrolled in Semester 2 Nursing major.

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.

Notes: Requires completion of Semester 2 nursing major courses; Must be enrolled in Semester 3 Nursing major.

NURS 361 - Research, Quality, and Safety in Nursing

Credits: 3

This course advances the scholarship of nursing by identifying emerging principles of quality, safety, and research in nursing practice. Emphasis is placed on locating and evaluating resources to solve clinical problems and ensure quality nursing care through evidence-based practice.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 2 nursing major courses; Must be enrolled in Semester 3 Nursing major.

NURS 365 - Clinical Application II

Credits: 3

This course introduces population health and reinforces nursing care of individuals across the lifespan with on-campus and off-campus clinical experiences.

Registration Restriction: Admission to the nursing major.

Corequisites: NURS 353.

Notes: Requires completion of Semester 1 nursing major courses; Must be enrolled in Semester 2 Nursing major.

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.

Notes: Requires completion of Semester 2 nursing major courses; Must be enrolled in Semester 3 Nursing major.

NURS 373 - Clinical Judgment II

Credits: 2

This course reinforces clinical judgment through discussion and reflection to bridge student learning between theory concepts and clinical experiences.

Registration Restriction: Admission to the nursing major.

Corequisites: NURS 375.

Notes: Requires completion of Semester 2 nursing major courses; Must be enrolled in Semester 3 Nursing major.

NURS 375 - Clinical Application III

Credits: 4

This course introduces nursing care of specialty populations and reinforces care of individuals and populations with on-campus and off-campus clinical experiences.

Registration Restriction: Admission to the nursing major.

Corequisites: NURS 373.

Notes: Requires completion of Semester 2 nursing major courses; Must be enrolled in Semester 3 Nursing major.

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 425 - Clinical Application IV

Credits: 4

This course introduces nursing care of complex illnesses and traumatic injury in individuals and reinforces care of populations with on-campus and off-campus clinical experiences.

Registration Restriction: Admission to the nursing major.

Corequisites: NURS 453.

Notes: Requires completion of Semester 3 nursing major courses; Must be enrolled in Semester 4 Nursing major.

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.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 3 nursing major courses; Must be enrolled in Semester 4 Nursing major.

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.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 3 nursing major courses; Must be enrolled in Semester 4 Nursing major.

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.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 3 nursing major courses; Must be enrolled in Semester 4 Nursing major.

NURS 444 - Population-Centered Care

Credits: 2

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.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 4 nursing major courses; Must be enrolled in Semester 5 Nursing major.

NURS 444L - Population-Centered Care Lab

Credits: 1

Lab to accompany NURS 444.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 4 nursing major courses; Must be enrolled in Semester 5 Nursing major.

NURS 446 - Professional and Population Health Nursing III

Credits: 2

This course encourages mastery of professional nursing and population health concepts. Emphasis is placed on leadership, healthcare systems, and collaborative partnerships.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 3 nursing major courses; Must be enrolled in Semester 4 Nursing major.

NURS 448 - Client Centered Care III

Credits: 4

This course focuses on advanced health and illness concepts in nursing practice. Emphasis is placed on concepts related to complex illness, traumatic injury, and disease management.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 3 nursing major courses; Must be enrolled in Semester 4 Nursing major.

NURS 451 - Pharmacology for Nursing Practice II

Credits: 1

This course encourages competency in pharmacology and therapeutics for application in nursing practice.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 3 nursing major courses; Must be enrolled in Semester 4 Nursing major.

NURS 452 - Introduction to Population Health

Credits: 3

This course introduces the student to the concept of community as a client. Students will explore population focused disease management and illness prevention, as well as health determinants and health disparities, with an emphasis on assessment.

Registration Restriction: Admission to the RN to B.S.N. program.

NURS 453 - Clinical Judgment III

Credits: 2

This course continues to reinforce clinical judgment through discussion and reflection to bridge student learning between theory concepts and clinical experiences.

Registration Restriction: Admission to the nursing major.

Corequisites: NURS 425.

Notes: Requires completion of Semester 3 nursing major courses; Must be enrolled in Semester 4 Nursing major.

NURS 455 - Quality Improvement and Safety

Credits: 3

This course identifies emerging principles of quality and safety in nursing practice. The student will investigate aspects of quality improvement based on indicators and organizational strategies to improve client outcomes.

Registration Restriction: Admission to the RN to B.S.N. program.

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.

Registration Restriction: Admission to the RN to B.S.N. program.

NURS 462 - Application of Population Health

Credits: 3

The student examines population health issues with an emphasis on program planning, implementation, and evaluation, using a collaborative approach.

Prerequisites: NURS 452.

Registration Restriction: Admission to the RN to B.S.N. program.

NURS 463 - Systems-Based Practice in Healthcare

Credits: 3

This course exposes the student to evidence-based methods to address the ever-changing, complex healthcare environment.

Registration Restriction: Admission to the RN to B.S.N. program or B.S. in Healthcare Systems Engineering.

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.

Registration Restriction: Admission to the RN to B.S.N. program.

NURS 465 - Evidence-Based Practice and Research

Credits: 3

This course introduces research, evidence-based practice, and improvement science. Students will explore areas of scholarship that are transformational to healthcare.

Registration Restriction: Admission to RN to B.S.N. program.

NURS 466 - Healthcare Informatics and Technologies

Credits: 3

This course examines the role of nursing informatics in healthcare systems for delivery of safe, high-quality client care. Students will investigate information and communication technologies associated with improving client outcomes.

Registration Restriction: Admission to RN to B.S.N. program.

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. Students will explore ways to maintain quality of life for patients with chronic illness.

NURS 469 - Nursing Leadership in Practice

Credits: 3

This course analyzes management, leadership, and change theories within professional nursing practice. Students will analyze methods for acquiring and asserting nursing leadership skills.

Registration Restriction: Admission to RN to B.S.N. 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.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 4 nursing major courses; Must be enrolled in Semester 5 Nursing major.

NURS 473 - Clinical Judgment IV

Credits: 2

This course promotes mastery in clinical judgment through discussion and reflection to bridge student learning between theory concepts and clinical experiences.

Registration Restriction: Admission to the nursing major.

Corequisites: NURS 495.

Notes: Requires completion of Semester 4 nursing major courses; Must be enrolled in Semester 5 Nursing major.

NURS 482 - Transition to Professional Nursing

Credits: 3

This course will prepare student nurses for licensure and nursing practice through evidence-based assessment strategies.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 4 nursing major courses; Must be enrolled in Semester 5 Nursing major.

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.

NURS 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.

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.

Registration Restriction: Admission to the nursing major.

Notes: Requires completion of Semester 4 nursing major courses; Must be enrolled in Semester 5 Nursing major.

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 498 - Research (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.

NUTR (Nutrition and 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 - Foods Principles

Credits: 3

Scientific investigation of basic foods used to maintain optimum nutrition.
Corequisites: NUTR 141L.

NUTR 141L - Foods Principles Lab

Credits: 1

Laboratory experience to accompany NUTR 141.
Corequisites: NUTR 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 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 221 or NUTR 315.

NUTR 341 - Food Science for Nutrition and Dietetics

Credits: 3

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 and (CHEM 106 or CHEM 112).
Corequisites: NUTR 341L.

NUTR 341L - Food Science for Nutrition and Dietetics Lab

Credits: 1

Laboratory to accompany NUTR 341.
Corequisites: NUTR 341.

NUTR 422 - Advanced Human Nutrition and Metabolism

Credits: 4

Principles of metabolism and application to human nutrition.
Prerequisites: BIOL 325 and NUTR 315.

NUTR 423 - Medical Nutrition Therapy I

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.

NUTR 425 - Medical Nutrition Therapy II

Credits: 3

Continuation of NUTR 423.
Prerequisites: NUTR 423.

NUTR 426 - Production of Wine Beer Spirits

Credits: 2

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.

Registration Restriction: Participants must be 21 years of age or older to enroll.

Corequisites: NUTR 426L

Cross-Listed: HO 426 and PS 426.

NUTR 426L - Production of Wine Beer Spirits Lab

Credits: 1

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.

Registration Restriction: Participants must be 21 years of age or older to enroll.

Corequisites: NUTR 426.

Cross-Listed: HO 426L and PS 426L.

NUTR 460 - 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 - 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 - Professionalism I

Credits: 1

This course will address and engage students in meeting core professional behavior competencies for assuming professional responsibilities to provide safe, ethical and effective nutrition services. Topics included are code of ethics, standards of practice, diversity, confidentiality and legislative requirements and policy for the nutrition and dietetics profession.
Registration Restriction: Nutrition and Dietetics (B.S.) majors and junior or senior standing.

NUTR 488 - Professionalism II

Credits: 1

Building on core professional behavior competencies provided in NUTR 487, this course will focus on using effective communication, collaboration and advocacy skills to meet competencies as part of the accredited programs in dietetics. Topics included are the application of effective and ethical communication skills, teamwork, advocacy, negotiation skills and selecting modes of communication appropriate to messaging and meeting the needs of the audience.

Prerequisites: NUTR 487.

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.

NUTR 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.

NUTR 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.

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 - Research (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.

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 272 - Introduction to Cross-Disciplinary Experience

Credits: 1

This is a problem-based course dedicated to student teamwork on assignments facilitated by a team of faculty with relevant expertise. The course focuses on the introduction to cross-disciplinary collaboration with students from diverse disciplines to solve complex problems, including communication, teamwork, and problem-solving skills. Students will learn foundational principles and best practices to develop professional skills highly demanded by industry employers. Registration Restriction: Instructor permission.

OM 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.

OM 363 - Introduction to Supply Chain Management

Credits: 3

The course covers fundamentals of Supply Chain Management including supply chain configuration and network, effective and efficient management of material flow from raw materials to final consumer, supply chain success drivers and metrics, and relationships between key links of a supply chain. The course discusses how to achieve strategic fit in delivering value to customers through alignment of procurement, manufacturing, logistics, and distribution functions.

OM 415 - 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.

OM 435 - 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.

OM 462 - 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 - 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 472 - Cross-disciplinary Project Experience

Credits: 3

This is a project-based course dedicated to student teamwork on an assigned industry project facilitated by a team of faculty with relevant expertise. The course focuses on cross-disciplinary application of technical skills in collaboration with students from diverse disciplines to solve complex industry problems. It emphasizes professional communication and teamwork skills and involves close interaction with industry representatives to accomplish goals.

Registration Restriction: Instructor permission.

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.

OM 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.

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.

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 - Introduction to Teaching Physical Literacy

Credits: 2

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.

PE 185L - Introduction to Teaching Physical Literacy Lab

Credits: 1

Lab to accompany PE 185.

Corequisites: PE 185.

PE 220 - Skills and Fitness Based Competencies: Fitness

Credits: 2

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.

Registration Restriction: Instructor consent.

Corequisites: PE 220L, PE 221, and PE 222.

PE 220L - Skills and Fitness Based Competencies: Fitness Lab

Credits: 1

Lab to accompany PE 220.

Corequisites: PE 220.

PE 221 - Skills & Fitness Based Competencies: Lifetime Activities

Credits: 2

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.

Registration Restriction: Instructor consent.

Corequisites: PE 220, PE 221L, and PE 222.

PE 221L - Skills & Fitness Based Competencies: Lifetime Activities Lab

Credits: 1

Lab to accompany PE 221.

Corequisites: PE 221.

PE 222 - Skills & Fitness Based Competencies: Tactical Games

Credits: 2

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.

Registration Restriction: Instructor consent.

Corequisites: PE 220, PE 221, and PE 222L.

PE 222L - Skills & Fitness Based Competencies: Tactical Games Lab

Credits: 1

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.

Corequisites: PE 222.

PE 275 - Science of Movement

Credits: 2

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.

Corequisites: PE 275L.

PE 275L - Science of Movement Lab

Credits: 1

Lab to accompany PE 275.

Corequisites: PE 275.

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.

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.

PE 342 - Experiential Education in Physical Education

Credits: 2

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, PE 221, and PE 222.

Registration Restriction: Instructor consent.

Corequisites: PE 342L.

PE 342L - Experiential Education in Physical Education Lab

Credits: 1

Lab to accompany PE 342.

Prerequisites: PE 220, PE 221, and PE 222.

Corequisites: PE 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 - K-8 Physical Education Methods (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.

PE 360L - K-8 Physical Education Methods Lab

Credits: 1

Accompanies PE 360.

Corequisites: PE 360.

PE 395 - 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.

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 460 - Theories, Strategies, and Application of Management and Instruction

Credits: 2

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 460L and PE 461.

PE 460L - Theories, Strategies, and Application of Management and Instruction Lab

Credits: 2

Lab to accompany PE 460.

Corequisites: PE 460.

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.

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.

Registration Restriction: Instructor consent.

Corequisites: PE 460, 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: Completion of or concurrent enrollment in PE 483.

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 - 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. Prerequisites: Consent.

PE 491 - Independent Study (COM)

Credits: 1-4

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.

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.

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.

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.

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: PHA 323.

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.

Prerequisites: RESP 310.

PHA 331 - Pharmaceutics I

Credits: 4

Theory, preparation and application of pharmaceutical dosage forms and drug delivery systems.

PHA 332 - Pharmaceutics II

Credits: 2

Theory, preparation and application of pharmaceutical dosage forms and drug delivery systems.

Prerequisites: PHA 331.

PHA 340 - Medicinal Chemistry I

Credits: 3

Principles of medicinal chemistry leading to the clear understanding of pharmacotherapy

PHA 341 - Medicinal Chemistry II

Credits: 3

Principles of medicinal chemistry leading to the clear understanding of pharmacotherapy.

Prerequisites: PHA 340.

PHA 342 - Self Care Pharmacotherapeutics I

Credits: 2

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 alternative medicine, and medical devices. Education of patients on these products and health/wellness strategies.

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: BIOL 325 or BIOL 326.

PHA 353 - Pathophysiology, Pharmacology and Toxicology II

Credits: 3

Continuation of Pathophysiology, Pharmacology and 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.

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.

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.

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.

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: 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.

PHA 430 - Pharmacy Practice Law and Ethics

Credits: 4

State and federal laws and regulations.

PHA 442 - Pharmacology I

Credits: 5

Principles of pharmacology leading to the clear understanding of pharmacotherapy.

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.

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 and 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: PHA 353.

PHA 453 - Pathophysiology, Pharmacology and Toxicology IV

Credits: 4

Continuation of Pathophysiology, Pharmacology and 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: 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: 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: 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.

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.

PHA 470 - Introduction to Drug Discovery and Development

Credits: 3

This course explores the fundamental principles and processes involved in discovering novel drugs, including the drug approval process and related regulatory aspects, principles of drug action, fundamentals of drug chemistry, and an overview of pharmacokinetics and drug delivery. It provides insights into the latest trends, technologies, and regulatory frameworks shaping the new drug discovery landscape.

PHA 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.

PHGY (Physiology)

PHGY 210 - Human Physiology (COM)

Credits: 3

Lectures, laboratory work and demonstrations of human physiological processes both normal and abnormal.

Prerequisites: ANAT 142.

Corequisites: PHGY 210L.

PHGY 210L - Human Physiology Lab (COM)

Credits: 1

Lectures, laboratory work and demonstrations of human physiological processes, both normal and abnormal.

Corequisites: PHGY 210.

PHIL (Philosophy)

PHIL 100 - Introduction to Philosophy (COM) [SGR #4, HSDC]

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 (COM) [SGR #3, HSDC]

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, HSDC]

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, HSDC]

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, HSDC]

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.

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.

PHIL 492 - Topics (COM)

Credits: 1-5

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.

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.

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 - Survey of Physics (COM) [SGR #6, HSDC]

Credits: 3

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.

Corequisites: PHYS 101L.

Notes: Credit will not be allowed in both PHYS 101 and PHYS 111-113 or PHYS 211-213. Course meets SGR #6.

PHYS 101L - Survey of Physics Lab (COM) [SGR #6, HSDC]

Credits: 1

This laboratory accompanies PHYS 101.

Corequisites: PHYS 101.

Notes: Course meets SGR #6.

PHYS 111 - Introduction to Physics I (COM) [SGR #6, HSDC]

Credits: 3

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 116, MATH 120, MATH 121, MATH 123, MATH 125, MATH 281 or consent.

Corequisites: PHYS 111L.

Notes: Course meets SGR #6.

PHYS 111L - Introduction to Physics I Lab (COM) [SGR #6, HSDC]

Credits: 1

This laboratory accompanies PHYS 111.

Corequisites: PHYS 111.

Notes: Course meets SGR #6.

PHYS 113 - Introduction to Physics II (COM) [SGR #6, HSDC]

Credits: 3

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.

Notes: Course meets SGR #6.

PHYS 113L - Introduction to Physics II Lab (COM) [SGR #6, HSDC]

Credits: 1

This laboratory accompanies PHYS 113.

Prerequisites: PHYS 113.

Notes: Course meets SGR #6.

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.

Notes: Fall.

PHYS 185 - Solar System Astronomy (COM) [SGR #6, HSDC]

Credits: 2

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.

Notes: Fall. Course meets SGR #6.

PHYS 185L - Solar System Astronomy Lab (COM) [SGR #6, HSDC]

Credits: 1

This laboratory accompanies PHYS 185.

Corequisites: PHYS 185.

Notes: Fall. Course meets SGR #6.

PHYS 187 - Stars, Galaxies, and Cosmology (COM) [SGR #6, HSDC]

Credits: 2

This course is a descriptive course that introduces stellar astronomy. Emphasis will be placed on stars, nebulae, galaxies, and cosmology.

Corequisites: PHYS 187L.

Notes: Spring. Course meets SGR #6.

PHYS 187L - Stars, Galaxies, and Cosmology Lab (COM) [SGR #6, HSDC]

Credits: 1

Lab component of PHYS 187.

Corequisites: PHYS 187.

Notes: Spring. Course meets SGR #6.

PHYS 207 - Fundamentals of Physics I (COM) [SGR #6, HSDC]

Credits: 3

This is the first part of a two-semester calculus-based sequence covering selected fundamental physics concepts. Topics include classical mechanics.

Prerequisites: MATH 123.

Corequisites: PHYS 207L.

Notes: Course meets SGR #6.

PHYS 207L - Fundamentals of Physics I Lab (COM) [SGR #6, HSDC]

Credits: 1

This laboratory accompanies PHYS 207.

Corequisites: PHYS 207.

Notes: Course meets SGR #6.

PHYS 209 - Fundamentals of Physics II (COM) [SGR #6, HSDC]

Credits: 3

This is the second part of a two-semester calculus-based sequence covering selected fundamental physics concepts. Topics include electricity and magnetism.

Prerequisites: PHYS 207 or PHYS 211.

Corequisites: PHYS 209L.

Notes: Course meets SGR #6.

PHYS 209L - Fundamentals of Physics II Lab (COM) [SGR #6, HSDC]

Credits: 1

This laboratory accompanies PHYS 209.

Corequisites: PHYS 209.

Notes: Course meets SGR #6.

PHYS 211 - University Physics I (COM) [SGR #6, HSDC]

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 desiring a strong background in physics. Classical mechanics and related topics such as thermodynamics are covered.

Prerequisites: MATH 123 or MATH 125.

Corequisites: PHYS 211L.

Notes: Fall. Course meets SGR #6.

PHYS 211L - University Physics I Lab (COM) [SGR #6, HSDC]

Credits: 1

This laboratory accompanies PHYS 211.

Corequisites: PHYS 211.

Notes: Fall. Course meets SGR #6.

PHYS 213 - University Physics II (COM) [SGR #6, HSDC]

Credits: 4

This is the second course in a two-semester calculus-level sequence, covering fundamental concepts of physics. This is the preferred sequence for students desiring a strong background in physics. Electricity and magnetism and related topics such as waves and optics are covered.

Prerequisites: (PHYS 207 or PHYS 211) and MATH 123.

Corequisites: PHYS 213L.

Notes: Spring. Course meets SGR #6.

PHYS 213L - University Physics II Lab (COM) [SGR #6, HSDC]

Credits: 1

This laboratory accompanies PHYS 213.

Corequisites: PHYS 213.

Notes: Spring. Course meets SGR #6.

PHYS 216 - Physical Science for Early Childhood

Credits: 2

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.

Corequisites: PHYS 216L.

Notes: Spring.

PHYS 216L - Physical Science for Early Childhood Lab

Credits: 1

Laboratory to accompany PHYS 216.

Corequisites: PHYS 216.

PHYS 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.

PHYS 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.

PHYS 316 - Measurement Theory and Experiment Design

Credits: 1

This course looks at accuracy, precision and uncertainty and how these quantities propagate as experimental laboratory measurements are converted to experimental results.

Prerequisites: PHYS 113 or PHYS 213.

Corequisites: PHYS 316L.

Notes: Fall.

PHYS 316L - Measurement Theory and Experiment Design Lab

Credits: 1

Laboratory portion of Phys 316.

Corequisites: PHYS 316.

Notes: Fall.

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.

Notes: Spring.

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 113 or PHYS 209 or PHYS 213 or consent.

Notes: Fall.

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 209 or PHYS 213) and MATH 225.

Notes: Fall.

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: (Completion of or concurrent enrollment in PHYS 331) and completion of PHYS 341 and MATH 321, or consent.

Notes: Fall.

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 209 or PHYS 213) and MATH 225.

Notes: Even Fall.

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.

Notes: Odd Spring.

PHYS 421 - 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 209 or PHYS 213), MATH 225 and MATH 321.

Notes: Spring.

PHYS 433 - Nuclear and Elementary Particle Physics (COM)

Credits: 4

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 or PHYS 431.

Notes: Odd Spring.

PHYS 437 - 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 and PHYS 113 or PHYS 213.

Cross-Listed: NE 437.

Notes: Even Spring.

PHYS 439 - 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 449 - Computational Physics (COM)

Credits: 4

The course emphasizes ideas of computational physics and programming languages and skills for solving problems. Areas of application may include quantum mechanics, atomic physics, nuclear and particle physics, astrophysics, condensed matter physics, nonlinear dynamics and chaos, biophysics, materials science, engineering, and chemistry.

Prerequisites: (PHYS 331 or PHYS 431) and (CSC 115 or CSC 150 or CSC 155 or CSC 170 or INFO 101).

PHYS 451 - 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 or PHYS 209 or PHYS 213) and MATH 321.

Notes: Fall.

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.

PHYS 465 - Senior Design II

Credits: 1

This course completes the departmental capstone senior design project. The student will construct, assemble, and test the project that they designed in PHYS 464.

Prerequisites: PHYS 464.

Corequisites: PHYS 465L.

PHYS 465L - Senior Design II Research

Credits: 1

This is the laboratory portion of Phys 465 where the design developed in Phys 464 is built, tested, and made to work.

Corequisites: PHYS 465.

PHYS 471 - 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.

Notes: Spring.

PHYS 481 - 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.

Notes: Odd Fall.

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.

Notes: Spring.

PHYS 491 - Independent Study (COM)

Credits: 1-4

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.

PHYS 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.

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 - Research (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.

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 - 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 - 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.

PLAN 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.

POLS (Political Science)

POLS 100 - American Government (COM) [SGR #3, HSDC] [CIV]

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 civics requirement.

POLS 101 - Introduction to Political Science (COM)

Credits: 3

This course introduces students to the discipline of political science, as well as to the political science major. The course will provide an overview of the major subfields of political science (international relations, comparative politics, political theory, methodology, and American politics) as well as public policy and public administration.

POLS 102 - American Political Issues (COM) [SGR #3, HSDC]

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, HSDC]

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, HSDC]

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, HSDC] [CIV]

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 civics requirement.

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, HSDC]

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 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: 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.

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.

Registration Restriction: Senior standing.

POLS 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.

POLS 492 - Topics (COM)

Credits: 1-5

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.

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.

PRAG (Precision Agriculture)

PRAG 203 - Introduction to Precision Agriculture

Credits: 2

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: PRAG 203L.

PRAG 203L - Introduction to Precision Agriculture Lab

Credits: 1

Laboratory to accompany PRAG 203.

Corequisites: PRAG 203.

PRAG 204 - Precision Agriculture for Teachers

Credits: 2

Students will obtain general working knowledge of GPS systems, vehicle guidance systems, data management software, yield monitors, general precision ag practices, and the environmental benefits of implementing precision agriculture practices. Registration Restriction: Students must be enrolled in the Agricultural Education, Communication and Leadership - Agricultural Education Specialization.

PRAG 285 - Agricultural Computations

Credits: 2

Integrating technology in production agriculture is becoming more and more prevalent in the world of digital/precision agriculture. This course uses spreadsheet technology as a tool to enhance the student's ability to communicate data-driven information from GPS/Satellite/Drone technology 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.

PRAG 304 - Electrical Diagnostics for Farm Machinery

Credits: 2

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 or ET 210.

Corequisites: PRAG 304L.

PRAG 304L - Electrical Diagnostics for Farm Machinery Lab

Credits: 1

Lab to accompany PRAG 304.

Corequisites: PRAG 304.

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 and PS 213.

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 - Principles and Implications of Chemical Application Systems

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 - Soil Geography and Land Use Interpretation

Credits: 2

Relationship of soil characteristics and soil classification to land use interpretations. Laboratory exercises involve field and laboratory procedures used in soil survey investigations.

Prerequisites: (GEOG 132 and GEOG 132L) or (PS 213 and PS 213L) or instructor consent.

Corequisites: PRAG 410L.

Cross-Listed: GEOG 410.

PRAG 410L - Soil Geography and Land Use Interpretation Lab

Credits: 1

Laboratory to accompany PRAG 410.

Corequisites: PRAG 410.

Cross-Listed: GEOG 410L.

PRAG 423 - 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.

PRAG 424 - 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 and PS 213.

Registration Restriction: Junior or Senior standing.

PRAG 425 - 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 and PS 213.

Registration Restriction: Junior or Senior standing.

PRAG 426 - 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 and PS 213.

Registration Restriction: Junior or Senior standing.

PRAG 427 - Precision Ag Data Mapping

Credits: 2

Mapping agronomic field data and generating management zones using appropriate industry software on the commercial market.

Registration Restriction: Junior standing and 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.

PRAG 440 - Crop Management with Precision Farming

Credits: 2

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: PRAG 440L.

PRAG 440L - Crop Management with Precision Farming Lab

Credits: 1

Laboratory to accompany PRAG 440.

Corequisites: PRAG 440.

PRAG 475 - Senior Capstone

Credits: 3

A current precision agriculture related research project in a field plot, greenhouse, or mechanical setting is assigned to a small student team. Student teams will use scientific methods and statistical analysis tools to solve the problem.

Prerequisites: (PRAG 285 or AST 273) and (STAT 281 or STAT 383).

Registration Restriction: Senior standing.

PRAG 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.

PRAG 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.

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 - Research (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.

PS (Plant Science)

PS 103 - Crop Production

Credits: 2

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.

PS 103L - Crop Production Lab

Credits: 1

Laboratory experience to accompany PS 103.

Corequisites: PS 103.

PS 105 - Insects and Society [HSDC]

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 - Turf and Weed Management in Horticulture

Credits: 2

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.

Cross-Listed: HO 210.

PS 210L - Turf and Weed Management in Horticulture Lab

Credits: 1

Turf and weed identification, control methods, and related activities will be addressed in the laboratory.

Corequisites: PS 210.

Cross-Listed: HO 210L.

PS 213 - Soils [SGR #6, HSDC]

Credits: 2

Development and classification of soils; physical, biological, and chemical properties; management aspects, including water, fertility, and erosion; soils in the environment.

Prerequisites: (CHEM 106 and CHEM 106L) or (CHEM 112 and CHEM 112L).

Corequisites: PS 213L.

Notes: Course meets SGR #6.

PS 213L - Soils Lab [SGR #6, HSDC]

Credits: 1

Laboratory experience to accompany PS 213.

Corequisites: PS 213.

Notes: Course meets SGR #6.

PS 223 - Principles of Plant Pathology

Credits: 2

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) or (BIOL 153) or (BOT 201 and BOT 201L).

Corequisites: PS 223L.

PS 223L - Principles of Plant Pathology Lab

Credits: 1

Laboratory experience to accompany PS 223.

Corequisites: PS 223.

PS 243 - Principles of Geology [SGR #6, HSDC]

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

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.

PS 255 - Woody Plants

Credits: 3

Nomenclature, classification, identification and use of trees, shrubs and vines for the Northern Great Plains.

Prerequisites: HO 111 or BIOL 101.

Corequisites: PS 255L.

Cross-Listed: HO 255.

PS 255L - Woody Plants Lab

Credits: 1

Lab to accompany PS 255.

Corequisites: PS 255.

Cross-Listed: HO 255L.

PS 308 - Grain Grading

Credits: 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 and PS 103L.

Corequisites: PS 308L.

PS 308L - Grain Grading Lab

Credits: 1

Laboratory experience to accompany PS 308.

Corequisites: PS 308.

PS 311 - Herbaceous Plants

Credits: 2

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 and BOT 201 or consent.

Corequisites: PS 311L.

Cross-Listed: HO 311.

PS 311L - Herbaceous Plants Lab

Credits: 1

Laboratory to accompany PS 311.

Corequisites: PS 311.

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 or HO 111.

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 and PS 308.

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.

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 or HO 111.

Cross-Listed: HO 345.

PS 383 - Principles of Crop Improvement

Credits: 2

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 or HO 111) and (BIOL 103 or BIOL 153 or BOT 201).

Corequisites: PS 383L.

Cross-Listed: HO 383.

PS 383L - Principles of Crop Improvement Lab

Credits: 1

Laboratory to accompany PS 383.

Corequisites: PS 383.

PS 403 - Seed Technology

Credits: 2

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 and PS 103L) or (HO 111 and HO 111L).

Corequisites: PS 403L.

PS 403L - Seed Technology Lab

Credits: 1

Laboratory to accompany PS 403.

Corequisites: PS 403.

PS 405 - Entomology (COM)

Credits: 2

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.

Prerequisites: "C" or better in BIOL 151.

Corequisites: PS 405L

PS 405L - Entomology Lab (COM)

Credits: 1

Laboratory experience that accompanies PS 405.

Corequisites: PS 405.

PS 407 - Insect Pest Management

Credits: 2

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.

PS 407L - Insect Pest Management Lab

Credits: 1

Laboratory to accompany PS 407.

Corequisites: PS 407.

PS 411 - 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.

PS 412 - 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 and CHEM 108 or CHEM 120.

PS 413 - Greenhouse and High Tunnel Management

Credits: 2

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.

Cross-Listed: HO 413.

PS 413L - Greenhouse and High Tunnel Management Lab

Credits: 1

Laboratory to accompany PS 413.

Corequisites: PS 413.

Cross-Listed: HO 413L.

PS 414 - Plant Propagation

Credits: 2

Fundamental anatomical and physiological principles and methods of reproducing herbaceous and woody plants by seeds, cuttings, grafts, layers and division.

Prerequisites: HO 111 and BOT 201 or consent.

Corequisites: PS 414L.

Cross-Listed: HO 414.

PS 415 - Mycology (COM)

Credits: 2

Comprehensive taxonomic survey of the Kingdom Fungi; reproductive biology, physiology, genetics, and ecology of fungal organisms; relationship of fungi to human affairs.

Prerequisites: BIOL 101 or BIOL 103 or BIOL 151 or BIOL 153.

Corequisites: PS 415L.

Cross-Listed: BIOL 415.

PS 415L - Mycology Lab (COM)

Credits: 1

Laboratory to accompany PS 415.

Corequisites: PS 415.

Cross-Listed: BIOL 415L.

PS 416 - 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.

PS 421 - Soil Microbiology

Credits: 2

Microbial species of agricultural soils, environmental factors affecting their numbers and activity, and biochemical changes brought about by these organisms.

Prerequisites: (BIOL 151 and BIOL 153) or (BOT 201 and BOT 201L).

Corequisites: PS 421L.

Cross-Listed: MICR 421.

PS 421L - Soil Microbiology Lab

Credits: 1

Laboratory to accompany PS 421.

Prerequisites: (BIOL 151 and BIOL 153) or (BOT 201 and BOT 201L).

Corequisites: PS 421.

Cross-Listed: MICR 421L.

PS 426 - Production of Wine Beer Spirits

Credits: 2

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.

Registration Restriction: Participants must be 21 years of age or older to enroll.

Corequisites: PS 426L.

Cross-Listed: HO 426 and NUTR 426.

PS 426L - Production of Wine Beer Spirits Lab

Credits: 1

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.

Registration Restriction: Participants must be 21 years of age or older to enroll.

Corequisites: PS 426.

Cross-Listed: HO 426L and NUTR 426L.

PS 431 - 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 - 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 or instructor consent.

PS 434 - 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.

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 - 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.

PS 445 - Weed Science

Credits: 2

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: (PS 103 or HO 111) and (CHEM 108 or CHEM 120 or CHEM 326).

Corequisites: PS 445L.

PS 445L - Weed Science Lab

Credits: 1

Laboratory to accompany PS 445.

Corequisites: PS 445.

PS 447 - 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.

PS 462 - Environmental Soil Management

Credits: 2

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 and PS 213L.

Corequisites: PS 462L.

PS 462L - Environmental Soil Management Lab

Credits: 1

Laboratory experience that accompanies PS 462.

Corequisites: PS 462.

PS 483 - 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 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.

Prerequisites: Registration in, enrollment in, or completion of PS 494.

PS 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.

PS 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.

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 - Research (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.

PSYC (Psychology)

PSYC 101 - General Psychology (COM) [SGR #3, HSDC]

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.

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 PSYC 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.

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.

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 or PSYC 102.

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.

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 - Research Methods in Psychology (COM)

Credits: 3

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.

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.

PSYC 375L - Research Methods in Psychology Lab (COM)

Credits: 1

This course provides laboratory experience in application of methods and principles of psychological research and data analysis.

Corequisites: PSYC 375.

PSYC 376 - Research Methods II (COM)

Credits: 3

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.

Prerequisites: PSYC 375.

Corequisites: PSYC 376L.

PSYC 376L - Research Methods II Lab (COM)

Credits: 1

Laboratory includes performance of experiments, data analysis, and preparation of research reports.

Corequisites: PSYC 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.

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.

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.

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.

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.

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 - 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

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.

PSYC 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.

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 - Research (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.

PUBH (Public Health)

PUBH 440 - 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.

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.

Prerequisites: MCOM 210.

Registration Restriction: Junior or Senior standing.

PUBR 411 - Media Analytics

Credits: 3

Students will gain an understanding of industry trends, terminology, planning, and measurement models related to traditional, social and emerging media environments.

Registration Restriction: Junior or Senior standing.

Cross-Listed: ADV 411.

PUBR 442 - Integrated Marketing Communication and Campaigns (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.

Cross-Listed: ADV 442.

Notes: ADV 442 and PUBR 442 are equivalent courses. Students cannot repeat the course for additional credit.

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.

Notes: ADV 472 and PUBR 472 are equivalent courses. Students cannot repeat the course for additional credit.

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.

PUBR 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.

PUBR 498 - Research (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.

RANG (Range Science)

RANG 205 - Introduction to Range Management [SGR #6, HSDC]

Credits: 2

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.

Corequisites: RANG 205L.

Notes: Spring. Course meets SGR #6.

RANG 205L - Introduction to Range Management Lab [SGR #6, HSDC]

Credits: 1

Laboratory experience that accompanies RANG 205. Range ecology and management methods and related activities will be addressed.

Corequisites: RANG 205.

Notes: Spring. Course meets SGR #6.

RANG 210L - Range Plant Identification Lab

Credits: 2

Instruction and practice in the recognition of important native and introduced range plants of North America.

Notes: Fall, no accompanying lecture section.

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.

Notes: Spring, odd years.

RANG 374 - Habitat Conservation and Management

Credits: 3

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.

Registration Restriction: Sophomore standing or higher.

Corequisites: RANG 374L.

Notes: Fall.

RANG 374L - Habitat Conservation and Management Lab

Credits: 1

Laboratory sessions to complement lecture material from RANG 374. Field trips to area range sites will be included.

Corequisites: RANG 374.

Notes: Fall.

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.

Registration Restriction: Instructor consent.

RANG 419 - Plant Ecology (COM)

Credits: 2

Description of plant communities, their dynamics and instruction. Environmental factors and their relationship with plants. Field trips.

Prerequisites: BIOL 153 or BOT 201.

Corequisites: RANG 419L.

Cross-Listed: BOT 419.

Notes: Fall, even years.

RANG 419L - Plant Ecology Lab (COM)

Credits: 1

Laboratory experience that accompanies RANG 419.

Corequisites: RANG 419.

Cross-Listed: BOT 419L.

Notes: Fall, even years.

RANG 421 - 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.

Notes: Spring, even years. Sections of this course are provided online through the Innovative Digital Education Alliance.

RANG 425 - Rangeland Assessment and Monitoring

Credits: 2

Principles and practical application of the assessment and monitoring of rangeland plant communities. Students will learn how to set objectives, determine parameters to measure, select appropriate techniques, and analyze quantitative data. The laboratory portion will cover a wide variety of sampling techniques, collecting and analyzing of assessment and monitoring data, and learn 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 or STAT 281) and NRM 311.

Corequisites: RANG 425L.

Notes: Fall, odd years.

RANG 425L - Rangeland Assessment and Monitoring Lab

Credits: 1

The laboratory portion of this course will cover a wide variety of sampling techniques, collecting and analyzing of assessment and monitoring data, and learn how state and federal agencies assess and monitor rangelands.

Corequisites: RANG 425.

Notes: Fall, odd years.

RANG 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.

RANG 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.

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 - Research (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.

READ (Reading)

READ 145 - Reading Strategies (COM)

Credits: 3

This course provides students with reading strategies necessary for making the transition to collegiate level reading. The course presents multiple strategies to promote comprehension skills, develop vocabulary and enhance metacognition to become strategic readers.

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.

Registration Restriction: 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.

Registration Restriction: 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 and Recreation 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 260 - Fundamentals of Sport and Recreation Leadership

Credits: 3

Introduction to sport and recreation leadership skills, concepts, and theories. Examination of the evolution of leadership theory; exploration of a personal leadership philosophy; understanding leadership as a process rather than a position; and analyzing the interaction of identity with leadership practice in the sport and recreation industry.

RECR 311 - Ethics in Sport and Recreation Management

Credits: 3

Exploration of the moral reasoning processes of sport and recreation management professionals and application of moral reasoning in dealing with ethical dilemmas in sport and recreation management.

RECR 315 - Psychosocial Aspects of Sport and Recreation Management

Credits: 3

An interdisciplinary approach to sport and recreation management that challenges students to critically reflect and discuss sport from psychological and sociological perspectives.

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 - 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.

Registration Restriction: Senior 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 - 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 486 - Sport Law (COM)

Credits: 3

The course will demonstrate how constitutional law, contract law, tort law, labor and anti-trust law, apply to the sport industry. In addition the course will provide a fundamental understanding of the court system and how legal issues are decided.

RECR 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.

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.

REL (Religion)

REL 213 - Introduction to Religion [SGR #4, HSDC]

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 settings.

Notes: Course meets SGR #4.

REL 224 - Old Testament [SGR #4, HSDC]

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, HSDC]

Credits: 3

Presents the history, writings, and theological themes of the New Testament.

Notes: Course meets SGR #4.

REL 238 - Native American Religions [SGR #4, HSDC]

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, HSDC]

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 305 - Apocalypses

Credits: 3

A historical and socio-rhetorical analysis of ancient Jewish and Christian apocalyptic movements and literature with some attention to modern examples.

Cross-Listed: HIST 305.

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 348 - Religion in American History (COM)

Credits: 3

This course will study religion as a force in American history from the Protestant Reformation in Europe through the present, examining a wide range of beliefs, practices, events, and historical figures. How have religious beliefs and communities both responded and contributed to historical change? What is American about religion in American history? To what degree has religion served as a source of liberation but also as source of oppression in American history?

Cross-Listed: HIST 348.

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.

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

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.

REL 492 - Topics (COM)

Credits: 1-5

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.

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 - Introduction to Respiratory Care

Credits: 4

Introductory course covering core concepts of respiratory care.

Corequisites: RESP 110L and RESP 150.

RESP 110L - Introduction to Respiratory Care Lab

Credits: 2

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 110.

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.

RESP 180 - Pathophysiology for Respiratory Care I

Credits: 2

An introduction to the etiology, symptomatology, and diagnostic tools of respiratory diseases. This includes the role of the respiratory therapist in care and treatment. Concepts of patient presentation to disease processes will be linked to what is observed in the clinical areas.

Corequisites: RESP 110.

RESP 210 - Respiratory Critical Care

Credits: 3

Concepts of respiratory critical care with an emphasis on mechanical ventilation.

Prerequisites: RESP 110.

Corequisites: RESP 210L.

RESP 210L - Respiratory Critical Care Lab

Credits: 2

Advanced respiratory care procedures in the clinical laboratory setting. Includes mechanical ventilation and critical care of the adult and neonatal patient.

Corequisites: RESP 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

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.

RESP 292 - 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.

RESP 310 - Advanced Respiratory Care

Credits: 4

Advanced study of cardiopulmonary physiology and hemodynamics in the didactic setting.

Prerequisites: RESP 210.

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 - Neonatal and Pediatric Respiratory Care

Credits: 3

Critical study of pediatrics and neonatology encouraging relevancies to the clinical areas.

Prerequisites: RESP 210.

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.

Registration Restriction: 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 489 - Capstone Project

Credits: 3

Integration and application of respiratory care knowledge and skills.

Prerequisites: RESP 310.

Registration Restriction: Department consent.

RESP 491 - Independent Study (COM)

Credits: 1-4

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.

RESP 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.

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: C or better in CSC 346.

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: C or better in CSC 317.

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.

Registration Restriction: 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

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.

SE 492 - Topics (COM)

Credits: 1-5

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.

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 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 these 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 - 5-12 Teaching Methods (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.

SEED 420L - 5-12 Teaching Methods Lab

Credits: 1

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 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 these 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.

Cross-Listed: EDFN 456.

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

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.

SEED 492 - Topics (COM)

Credits: 1-5

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.

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.

SOC (Sociology)

SOC 100 - Introduction to Sociology (COM) [SGR #3, HSDC]

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, HSDC]

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 204 - Introduction to Corrections (COM)

Credits: 3

Examine the operation and goals of the United States correctional system. Explore a range of correctional sanctions including probation and parole, community sanctions, and prisons. Survey the history and evolution of corrections and the punishment of convicted persons.

SOC 240 - The Sociology of Rural America (COM) [SGR #3, HSDC]

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, HSDC]

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.

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 - 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 - 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 - 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.

SOC 433 - 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 - 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 - 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.

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 - Population Studies

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 - 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.

Registration Restriction: Senior standing.

SOC 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.

SOC 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.

SOC 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.

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.

SOC 498 - Research (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.

SPAN (Spanish)

SPAN 101 - Introductory Spanish I (COM) [SGR #4, HSDC]

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, HSDC]

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, HSDC]

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, HSDC]

Credits: 3

Continuation of 201 with more emphasis on using grammar structures in an interactive way. Further study of the Hispanic world.

Prerequisites: SPAN 201.

Notes: Course meets SGR #4.

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

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.

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 359 - Hispanic/Latinx Experiences in the US

Credits: 3

This course studies the trajectories of communities in the US grouped under the collective terms Hispanic/Latinx, such as Mexican Americans, Puerto Ricans, Cuban Americans, and Central Americans, and analyzes them from historical, literary, and cultural perspectives to enhance understanding of these diverse groups who are often perceived as culturally homogenous.

Prerequisites: SPAN 330.

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

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.

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 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 - 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.

SPAN 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.

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 100 - Introduction to Persons with Exceptionalities (COM)

Credits: 3

A survey of the various exceptionalities and implications of education; the history and philosophy of special education; and state and federal legislation affecting special education.

SPED 330 - Language Development and Assistive Technology

Credits: 3

This course will provide a foundation in evaluating and planning for the unique language and communication needs of students. Through classroom discussions, activities and field experiences, participants will gain experience using augmentative and alternative communication systems as determined by individual student need. Additionally, participants will be prepared to describe and analyze communication needs, design strategies to facilitate intervention, and demonstrate an understanding of various communication interventions for students.

Registration Restriction: Must be admitted into teacher education program.

SPED 380 - Neurodiversity

Credits: 3

Students learn content and strategies related to Neurodiversity and the most commonly occurring Specific Learning Difficulties such as Dyslexia, Dysgraphia, Dyspraxia, Dyscalculia, ADHD, Autism, Specific Language Impairment, Working Memory, Anxiety and Trauma.

Registration Restriction: Must be admitted into teacher education program.

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.

SPED 410 - Behavior Management of Exceptional Children (COM)

Credits: 3

This course covers the development and implementation of positive behavior management including interventions, strategies, and supports as appropriate for individual students with disabilities.

SPED 413 - Serving Students with Severe Disabilities (COM)

Credits: 3

This course is the study of instructional strategies, materials, and equipment specific to the instruction of students with cognitive disabilities, developmental disabilities, and severe disabilities.

SPED 420 - K-12 Curriculum and Instructional Strategies (COM)

Credits: 3

Curriculum and individual education program development for special class teachers including strategies and materials at the K-12 level.

SPED 431 - Identification and Assessment in Special Education (COM)

Credits: 3

The course covers the development, selection, administration and interpretation of assessment instruments and strategies used to determine whether students have a disability and require special education or related services and to evaluate their level of performance to develop and monitor progress on individual education programs.

SPED 460 - Family Systems and Professional Collaborations (COM)

Credits: 3

This course covers the collaboration and communication skills necessary to work within family systems and the use of resources and services supporting birth through lifespan services, multidisciplinary team functioning, and the placement committee processes.

SPED 485 - Special Education Law (COM)

Credits: 3

An overview of the historical background of special education law, current issues, trends, and a critical analysis of local, state, and national laws regulating special education.

SPED 495 - Practicum (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.

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, HSDC]

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: MATH 114 or STAT 281 or STAT 381 or STAT 382.

STAT 410 - 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 - 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 - 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 - 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 - Statistical Methods II

Credits: 3

Review introductory statistical experiments and basics of programming with data. Topics include parameter estimation, hypothesis testing, and model assumption evaluation in various contexts such as one-way and two-way analysis of variance, simple and multiple linear regression, factorial designs, and experimental design. Students will use statistical software to analyze data and will learn to effectively communicate the scientific reasoning, statistical procedures, and interpretations of their analysis.

Prerequisites: STAT 281 or MATH/STAT 381 or STAT 482.

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) and (STAT 414 or STAT 415).

STAT 445 - 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 - 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 or STAT 600.

STAT 453 - 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 or STAT 415.

STAT 454 - Statistical Machine Learning and AI

Credits: 3

Local and cloud-based implementation and deployment of statistical machine learning for pattern recognition, clustering, and artificial intelligence.

Prerequisites: STAT 415 and STAT 482.

STAT 460 - 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: MATH 382 or STAT 441 or MATH/STAT 481 or STAT 482.

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 - 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.

STAT 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.

THEA (Theatre)

THEA 100 - Introduction to Theatre (COM) [SGR #4, HSDC]

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 (COM)

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, and diversity. In addition, this course is designed to expose students to the discipline-specific careers and their role in society.

THEA 131 - Introduction to Acting (COM) [SGR #4, HSDC]

Credits: 3

Designed for students 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

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.

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 - Stagecraft (COM)

Credits: 3

Theory and practical experience in theatre production. Lab work on two major theatre productions.

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 325 - Playwriting

Credits: 3

An introduction to the essential elements of playwriting and the basics of drama, including story, character, conflict, scene construction, and overall plot formation. Students also consider issues such as drama as metaphor, realities of staging, and production elements.

THEA 333 - Intermediate Acting

Credits: 3

Builds upon the principles taught in Introduction to Acting. This course will explore character development through analysis, physical and vocal techniques, and rehearsal processes. Students will also begin an examination of the fundamentals of period acting styles.

Prerequisites: THEA 131.

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 340 - Stage Combat

Credits: 3

The principles and techniques used to successfully achieve the illusion of physical conflict for the stage will be examined. Students will learn unarmed combat in the context of choreography. Actor safety, effective blocking, believable energy transfer and the analysis of physical motion will be examined.

Prerequisites: THEA 131.

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 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 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 - Lighting (COM)

Credits: 3

Basic principles and practices of lighting design, including basic electricity, script analysis, color, and directionality.

THEA 447 - Sound Design for the Performing Arts

Credits: 3

This course will introduce students to basic principles and terminology of audio and sound design. Topics include script analysis and sound design for theatre, recording techniques for soloists and music ensembles, and sound reinforcement for theatre, jazz bands, marching bands, and other ensembles.

Cross-Listed: MUS 447.

THEA 451 - Advanced Directing (COM)

Credits: 3

Advanced problems in stage directing, emphasizing text analysis, communication, and style as applied to one act plays.

Prerequisites: THEA 351.

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

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.

Prerequisites: Instructor and department chair consent.

THEA 492 - Topics (COM)

Credits: 1-5

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.

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.

Registration Restriction: Instructor consent.

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 DS 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 - Anatomy and Physiology of Domestic Animals

Credits: 3

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.

VET 223L - Anatomy and Physiology of Domestic Animals Lab

Credits: 1

Laboratory experience to accompany VET 223.

Corequisites: VET 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.

Registration Restriction: Sophomore standing or higher.

VET 424 - 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.

VET 476 - 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.

VET 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.

VET 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.

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 - Research (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.

VET 600 - Jackrabbit Orientation and Leadership Experience (JOALE)

Credits: 1

VET 601 - Microscopic Anatomy I

Credits: 1

VET 601L - Microscopic Anatomy I Lab

Credits: 1

VET 602 - Integrated Biochemistry and Physiology

Credits: 7

VET 603 - Anatomy I

Credits: 2

VET 603L - Anatomy I Lab

Credits: 2

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: 3

VET 621 - Professional Development II

Credits: 1

VET 622 - Anatomy II

Credits: 2

VET 622L - Anatomy II Lab

Credits: 2

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: 1

VET 628L - Microscopic Anatomy II Lab

Credits: 1

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: 1

VET 645 - Clinical Epidemiology

Credits: 2

VET 646 - Public Health

Credits: 2

VET 647 - Small Animal Medicine I

Credits: 2

VET 648 - Diagnostic Laboratory Methods

Credits: 1

VET 648L - Diagnostic Laboratory Methods Lab

Credits: 1

VET 649 - Large Animal Medicine I

Credits: 2

VET 650 - Professional Development III

Credits: 1

VET 660 - Small Animal Medicine II

Credits: 5

VET 661 - Small Animal Surgery I

Credits: 2

VET 661L - Small Animal Surgery I Lab

Credits: 1

VET 662 - Large Animal Surgery I

Credits: 3

VET 663 - Veterinary Imaging I

Credits: 3

VET 664 - Pharmacology II

Credits: 2

VET 665 - Clinical Skills IV

Credits: 1

VET 666 - Clinical Pathology II

Credits: 2

VET 666L - Clinical Pathology II Lab

Credits: 1

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 and 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.

Notes: Spring.

WL 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.

WL 355 - Mammalogy (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.

Prerequisites: BIOL 151 or BIOL 153.

Corequisites: WL 355L.

Notes: Spring.

WL 355L - Mammalogy Lab (COM)

Credits: 1

Laboratory experience that accompanies WL 355.

Corequisites: WL 355.

Notes: Spring.

WL 363 - Ornithology (COM)

Credits: 3

Identification of bird species; life histories, ecology, habits, and special structural and physiological adaptations of various groups.

Prerequisites: BIOL 151 or BIOL 153.

Corequisites: WL 363L.

Notes: Spring.

WL 363L - Ornithology Lab (COM)

Credits: 1

Laboratory experience that accompanies WL 363.

Corequisites: WL 363.

Notes: Spring.

WL 367 - Ichthyology

Credits: 2

Characteristics and relationships of fishes; adaptations, behavior, ecology, evolution, systematics, and zoogeography of fishes; and, identification and life histories of fishes.

Prerequisites: BIOL 151 or BIOL 153.

Corequisites: WL 367L.

Notes: Fall.

WL 367L - Ichthyology Lab

Credits: 1

Laboratory experience to accompany WL 367.

Corequisites: WL 367.

Notes: Fall.

WL 411 - Principles of Wildlife Management

Credits: 2

History, principles, and real-world applications of wildlife management, building on key concepts from ecology. Students will explore wildlife ecology, population dynamics, research methods, and current issues in wildlife management, examining legal, social, and political dimensions that shape management efforts. Significant focus on wildlife management in South Dakota. Students will actively engage in team-based research projects, critical evaluations of literature, and written and oral communication exercises, all designed to enhance critical thinking and problem-solving skills.

Prerequisites: NRM 230 and NRM 276 and (NRM 282 or STAT 281) and NRM 311.

Corequisites: WL 411L.

Notes: Fall.

WL 411L - Principles of Wildlife Management Lab

Credits: 1

Laboratory to accompany WL 411.

Corequisites: WL 411.

Notes: Fall.

WL 412 - Principles of Fisheries Management

Credits: 2

Fisheries management as a science with an emphasis on freshwater fishes and ecosystems. Emphases include biota, habitat, and human management.

Prerequisites: NRM 230 and NRM 276 and (NRM 282 or STAT 281) and NRM 311.

Corequisites: WL 412L.

Notes: Spring.

WL 412L - Principles of Fisheries Management Lab

Credits: 1

Laboratory experience to accompany WL 412.

Corequisites: WL 412.

Notes: Spring.

WL 415 - Upland Game Ecology and Management

Credits: 2

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 and (NRM 282 or STAT 281) and NRM 311.

Corequisites: WL 415L.

WL 415L - Upland Game Ecology and Management Lab

Credits: 1

Laboratory experience to accompany WL 415.

Corequisites: WL 415.

WL 417 - Large Mammal Ecology and Management

Credits: 2

Explores key concepts in wildlife ecology and management, with a focus on large mammal conservation. Students will examine population dynamics, research methods, and contemporary issues such as climate change and rewilding, while integrating legal, social, and political considerations. Through lectures, labs, and fieldwork, students will develop critical thinking, data analysis, and communication skills. Guest speakers will provide real-world insights, and group research projects will address the challenges of managing large mammal populations in human-dominated landscapes.

Prerequisites: NRM 230 and NRM 276 and (NRM 282 or STAT 281) and NRM 311.

Corequisites: WL 417L.

Notes: Spring, odd years.

WL 417L - Large Mammal Ecology and Management Lab

Credits: 1

Laboratory experience to accompany WL 417.

Corequisites: WL 417.

Notes: Spring, odd years.

WL 418 - Ecology of Aquatic Invertebrates

Credits: 2

The identification of and ecological relationships associated with aquatic invertebrates; aquatic ecosystems of the north-central states are emphasized.

Prerequisites: NRM 230 and (NRM 282 or STAT 281) and NRM 311.

Corequisites: WL 418L.

WL 418L - Ecology of Aquatic Invertebrates Lab

Credits: 1

Laboratory to accompany WL 418.

Corequisites: WL 418.

WL 419 - Waterfowl Ecology and Management

Credits: 2

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 and (NRM 282 or STAT 281) and NRM 311.

Corequisites: WL 419L.

WL 419L - Waterfowl Ecology and Management Lab

Credits: 1

Laboratory experience to accompany WL 419.

Corequisites: WL 419.

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 or STAT 281), and NRM 311.

Notes: Fall.

WL 421 - 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.

Notes: Spring, even years. Sections of this course are provided online through the Innovative Digital Education Alliance.

WL 425 - Wildlife Disease

Credits: 2

Expands on general ecology and wildlife management principles with a focus on diseases, population dynamics, disease monitoring, and research techniques. Students will critically evaluate wildlife literature and address contemporary issues, integrating biological, ecological, legal, social, and political aspects. Through hands-on labs and fieldwork, students will enhance their ability to synthesize complex concepts, collaborate on research projects, and communicate findings through written and oral assignments.

Prerequisites: NRM 230, NRM 276, and NRM 311.

Corequisites: WL 425L.

Notes: Spring, even years.

WL 425L - Wildlife Disease Lab

Credits: 1

To accompany WL 425.

Corequisites: WL 425.

Notes: Spring, even years.

WL 427 - Limnology and Stream Ecology

Credits: 2

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 and (NRM 282 or STAT 281) and NRM 311.

Corequisites: WL 427L.

Notes: Fall, even years.

WL 427L - Limnology and Stream Ecology Lab

Credits: 1

Laboratory to accompany WL 427.

Corequisites: WL 427.

Notes: Fall, even years.

WL 429 - 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 or STAT 281), and NRM 311.

Corequisites: WL 429L-429/529L-529.

Notes: Spring, odd years.

WL 430 - Human Dimensions in Natural Resource Management

Credits: 3

This course will cover skills related to understanding and resolving conflicts in natural resource management. Students will learn about the social process, including how to identify relevant stakeholders, what they value, and the strategies they use to achieve their goals, so they are better positioned to weigh tradeoffs between different management decisions. Students will hone their written and oral communication skills as they become effective natural resource problem solvers.

Prerequisites: NRM 230, (NRM 282 or STAT 281), and NRM 311.

Notes: Spring.

WL 431 - Advanced Fisheries Management

Credits: 2

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 or STAT 281), NRM 311, and WL 412.

Corequisites: WL 431L.

Notes: Fall, odd years.

WL 431L - Advanced Fisheries Management Lab

Credits: 1

Laboratory to accompany WL 431.

Prerequisites: WL 412L.

Corequisites: WL 431.

Notes: Fall, odd years.

WL 434 - Herpetology (COM)

Credits: 2

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 or BIOL 153.

Corequisites: WL 434L.

Notes: Fall.

WL 434L - Herpetology Lab (COM)

Credits: 1

This course complements WL 434; it emphasizes identification of and field experiences with the reptiles and amphibians of western South Dakota.

Corequisites: WL 434.

WL 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.

WL 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.

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 - Research (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.

WMST (Women's Studies)

WMST 247 - Introduction to Women, Gender, and Sexuality Studies (COM) [SGR #3, HSDC]

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, HSDC]

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 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

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.

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.

WMST 419 - 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.

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.

WMST 491 - Independent Study (COM)

Credits: 1-4

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.

WMST 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.

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 - Research (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.



University Organization, Administration, and Faculty

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.

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Sanjeev Kumar, Ph.D., Dean

Rajesh G. Kavasseri, Ph.D., Associate Dean

Suzette Burckhard, Ph.D., Assistant Dean

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Van D. and Barbara B. Fishback Honors College

Greg Heiberger, Ph.D., Interim Dean

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Department of Agricultural and Biosystems Engineering

Kasiviswanathan Muthukumarappan, Ph.D.

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Karen Sanguinet, Ph.D.

Department of Animal Science

John Jaeger, Ph.D.

Department of Dairy and Food Science

Londa Nwadike, Ph.D.

Department of Natural Resource Management

Michele Dudash, Ph.D.

Department of Veterinary and Biomedical Sciences

Angela Pillatzki, D.V.M.

Ness School of Management and Economics

Joseph Santos, Ph.D.

College of Arts, Humanities and Social Sciences

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Heath Abraham, M.B.A., M.S.S., Interim

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Jason McEntee, 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

Anne Karabon, Ph.D.

School of Health and Human Sciences

Jessica Meendering, Ph.D.

College of Natural Sciences

Department of Biology and Microbiology

Jeremy Chambers, Ph.D.

Department of Chemistry, Biochemistry and Physics

Brian Logue, Ph.D.

Department of Geography and Geospatial Sciences

Bob Watrel, Ph.D.

College of Nursing**Department of Graduate Nursing**

Heidi Mennenga, Ph.D.

Department of Undergraduate Nursing

Heidi Mennenga, Ph.D.

College of Pharmacy and Allied Health Professions**Department of Allied and Population Health**

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Department of Pharmacy Practice

Shanna O'Connor, Pharm.D.

Department of Pharmaceutical Sciences

Hemachand Tummala, Ph.D.

Jerome J. Lohr College of Engineering**Department of Agricultural and Biosystems Engineering**

Kasiviswanathan Muthukumarappan, Ph.D.

Department of Civil and Environmental Engineering

Guanghai Hua, Ph.D.

Department of Construction and Concrete Industry Management

Julian Kang, Ph.D.

Department of Mathematics and Statistics

Eun Heui Kim, Ph.D.

Department of Mechanical Engineering

Yucheng Liu, Ph.D.

McComish Department of Electrical Engineering and Computer Science

Sungyong Jung, Ph.D.

Ness School of Management and Economics

Joseph Santos, Ph.D.

University Administration and 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.

Brown, Vernon, Associate Vice President for External Affairs; B.A., South Dakota State University, 1990.

Greene, Tracy A., Vice President and General Counsel; B.S., University of Idaho, 2000; J.D., 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.

Mielke, Barry A., 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 Security; 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., 1987; M.P.V.M., University of California, 1988; Ph.D., State University of Utrecht (the Netherlands), 1992.

Seefeldt, Teresa M., Vice Provost for Undergraduate Education, Associate Professor of Pharmaceutical Sciences, Graduate Faculty; B.S., South Dakota State University, 2002; Pharm.D., 2004; Ph.D., 2007.

Sell, Justin, Director of Athletics; B.S., Bowling Green State University, 1991; M.A., The Ohio State University, 1992.

Taylor, Victor, Vice Provost for Graduate Education and Extended Studies, Professor of English, Graduate Faculty; B.A., Le Moyne College, 1986; M.A., Syracuse University, 1989; Ph.D., 1995.

Weber, Karyn L., Chief of Staff; B.S., South Dakota State University, 1990; M.A., 1992.

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, and Assistant Deans

Burckhard, Suzette R., Assistant Dean for Academic Programs of the Jerome J. Lohr College of Engineering, Professor of Civil and Environmental Engineering, Graduate Faculty; B.S., South Dakota State University, 1986; M.S., Kansas State University, 1992; M.S., 1993; Ph.D., 1997.

Cassady, Joseph, South Dakota Corn Utilization Council Endowed Dean of Agriculture, Food and Environmental Sciences, Professor of Animal Science, Graduate Faculty; B.S., Iowa State University, 1993; M.S., University of Nebraska-Lincoln, 1995; Ph.D., 1999.

Christensen, Mary, Assistant Dean for Academic Programs of the College of Agriculture, Food, and Environmental Sciences, B.S., South Dakota State University, 2005; M.S., 2007; Ed.D., University of South Dakota, 2015.

Clem, James, Associate Dean of Student Services for the College of Pharmacy and Allied Health Professions, Professor of Pharmacy Practice, Graduate Faculty; B.S., University of Iowa, 1989; Pharm.D., 1991.

Connors, James, Associate Dean and Director of Academic Programs in the College of Agriculture, Food, and Environmental Sciences; B.S., Michigan State University, 1984; M.S., 1990; Ph.D., 1992.

Earnest, David, Dean of the College of Arts, Humanities and Social Sciences, Professor; B.A., Stanford University, 1991; M.A., George Washington University, 1994; Ph.D., 2004.

Emery, Karin, Assistant Dean of Nursing - Brookings and Associate Professor, Graduate Faculty; B.S., Medical University of South Carolina, 1997; M.S., Virginia Commonwealth University, 2011; Ph.D., 2019.

Hansen, Daniel J., Laughrey Endowed 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, Interim Dean of the Van D. and Barbara B. Fishback Honors College, Associate Professor of Biology and Microbiology, Graduate Faculty; 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; B.S., Visvesvaraya National Institute of Technology, 1995; M.S., Indian Institute of Science, 1998; Ph.D., Washington State University, 2002.

Krogh, Mary Anne, Roberta K. Olson Endowed Dean of the College of Nursing, Professor of Nursing, 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.

Kumar, Sanjeev, Jerome J. Lohr Endowed Dean of the Jerome J. Lohr College of Engineering, Professor of Civil Engineering, Graduate Faculty; Diploma in Civil Engineering, Thapar Polytechnic, India, 1984; Baccalaureate, The Institution of Engineers, India, 1986; M.S., University of Missouri-Rolla, 1993; Ph.D., 1996.

Laible, Brad R., Associate Dean for Academic Programs, College of Pharmacy and Allied Health Professions, Professor of Pharmacy Practice, Graduate Faculty; B.S., South Dakota State University, 1999; Pharm.D., 2001.

Mallik, Sanku, Associate Dean of Research, College of Pharmacy and Allied Health Professions; B.S., Indian Institute of Technology (India), 1987; Ph.D., Case Western Reserve University, 1992.

Mennenga, Heidi A., Associate Dean for Academic Programs for the College of Nursing, Professor, Graduate Faculty; B.S., South Dakota State University, 2001; M.S., South Dakota State University, 2006; Ph.D., University of Nevada, 2010.

Mollman, Sarah, Associate Dean for Research of the College of Nursing, Associate Professor; Graduate Faculty; B.S.N., South Dakota State University, 2000; M.S., 2011; Ph.D., University of Nevada, 2018.

Nold, Rosemarie, Assistant Dean of the College of Agriculture, Food, and Environmental Sciences, Director of the Institute of Global Agricultural Leadership, Professor 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.

Ortlieb, Evan, Dean of the College of Education and Human Sciences, Professor; B.S., Louisiana State University, 2004; M.Ed., 2005; Ph.D., 2007.

Plemmons, Christina, Assistant Academic Dean for Cooperative Programs for College 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.

Subramanian, Senthil, Dean and Associate Dean for Research of the College of Natural Sciences, Professor of Biology and Microbiology, Graduate Faculty; B.S., Annamali University (India), 1992; M.S., Tamil Nadu Agricultural University (India), 1995; Ph.D., 1994.

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), Assistant Vice President for Student Success and 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; Ph.D., Ball State University, 1993.

Watrel, Robert (Bob) H., Interim Associate Dean of Academics and Student Success of the College of Natural Sciences, 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.

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.

Distinguished Professors

Clay, David E., South Dakota Corn Endowed Chair in Precision Agriculture, 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 Emerita of Agronomy, Graduate Faculty; B.S., University of Wisconsin, 1977; M.S., University of Idaho, 1982; Ph.D., University of Minnesota, 1986.

Cole-Dai, Jihong, Distinguished Professor of Chemistry, Department of Chemistry, Biochemistry and Physics, Graduate Faculty; B.S., University of Science and Technology of China, 1982; M.S., University of Maryland, 1984; Ph.D., 1987.

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.

Enz, Molly K., Distinguished 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.

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., Distinguished Professor of Agricultural and Biosystems Engineering Emeritus, 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.

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.

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 Emerita of Nutrition and Dietetics, 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., Klingbeil Endowed Department Head of Agricultural and Biosystems Engineering and Distinguished Professor 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, Farm Credit Services of American Endowed Chair in Swine Production and Distinguished Professor of Animal Science, Graduate Faculty; B.S., South Dakota State University, 1982; M.S., 1984; Ph.D., Kansas State University, 1988.

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.

Zhang, Xiaoyang, Distinguished Professor of Geography and Geospatial Sciences, Senior Research Scientist at the Geospatial Sciences Center of Excellence, 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.

Faculty and Advisors

Aamold, Rachel, Instructor of Nursing; B.S., South Dakota State University, 2002; M.S.N., 2024.

Aaron, David, Assistant Professor, Engineering - Office of Research; B.S., South Dakota State University, 1975; M.S., University of Wisconsin, 1981.

Abraham, Heath A., Interim Department Head and Professor of Military Science; B.S., South Dakota State University, 2003; M.B.A., Grantham University, 2020, M.S.S., Army War College, 2025.

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.

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- 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.
- Paulson, James, Associate Professor Emeritus of Communication and Journalism; B.A., University of Nebraska, 1970; M.B.A., University of South Dakota, 1993.
- Pedersen, Scott, Professor Emeritus of Biology, Graduate Faculty; B.A., University of Colorado, 1984; M.A., 1988; Ph.D., University of Nebraska, 1993.
- 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, 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.
- Quist, Oren P., Professor Emeritus of Physics; B.A., Gustavus Adolphus College, 1965; M.S., University of Denver, 1967; Ph.D., 1973.
- Rauber, Joel D., Professor Emeritus of Physics, Graduate Faculty; B.S., Emory University, 1978; Ph.D., University of North Carolina, 1985.
- Raynie, Douglas, Professor and Department Head Emeritus of Chemistry and Biochemistry, Graduate Faculty; B.A., Augustana College, 1981; M.S., South Dakota State University, 1983; Ph.D., Brigham Young University, 1990.
- Redlin, Meredith, Professor Emerita of Sociology, 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, 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 and 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 and 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.
- 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.
- 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.
- Shin, Sung Yun, Professor Emeritus of Computer Science, Graduate Faculty; B.S., Kentucky State University, 1984; M.S., University of Wyoming, 1986; Ph.D., 1991.
- 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.
- Smith, Howard, Associate Dean of the College of Education and Counseling Emeritus and Professor Emeritus of Counseling and Human Resource Development; B.A., University of Sioux Falls, 1965; M.Div., Central Baptist Theological Seminary, 1968; M.Ed., South Dakota State University 1974; 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.
- 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.
- Stenvig, Thomas E., Professor of Nursing Emeritus, 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.
- Stover, Ronald G., Professor Emeritus of Sociology and Rural Studies; B.A., University of Georgia, 1970; M.A., 1973; Ph.D., 1975.
- Stremmel, Andrew J., Professor Emeritus of Early Childhood Education, School of Education, Counseling and Human Development, Graduate Faculty; B.A., Pennsylvania State University, 1978; M.S., Purdue University, 1981; Ph.D., 1989.
- 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.
- 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 and Business/Chief Financial Officer; B.S., South Dakota State University, 1969; M.B.A., University of South Dakota, 1971.
- Turnipseed, E. Brent, Professor Emeritus of Agronomy, Graduate Faculty; B.S., Mississippi State University, 1984; M.S., 1987; Ph.D., 1993.
- VanRiper, Gary, Assistant Professor of Pharmaceutical Sciences Emeritus; B.S., South Dakota State University, 1969; M.S., 1972.
- Voss, Jo, Associate Professor of Nursing Emerita, Graduate Faculty; B.S.N., Winona State University, 1980; M.S.N., University of Minnesota, 1993; Ph.D., University of Nebraska, 2003.
- Wadsworth, Jr., William S., Professor Emeritus of Chemistry; B.S. Trinity College, 1950; M.S., 1952; Ph.D., Pennsylvania State University, 1955.
- Walker, Darwin E., Professor Emeritus of Music; B.S., Northern State University, 1959; M.A., University of Northern Colorado, 1968; Ed.D., 1972.
- Wallace, Scott, Professor Emeritus of Studio Art, Graduate Faculty; B.F.A., Northern Illinois University, 1981; M.A., 1983; M.F.A., University of Arizona, 1985.
- 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.
- Wolf-Hall, Charlene, Dean Emerita of the College of Natural Sciences; B.S., South Dakota State University, 1990; M.S., 1992; Ph.D., University of Nebraska - Lincoln, 1995.
- 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.
- Wright, David, Department Head and Professor Emeritus 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.
- Yen, Yang, Professor Emeritus of Biology and Microbiology, Graduate Faculty; B.S., Sichuan Teachers University, 1978; M.S., Nanjing Agricultural University, 1986; Ph.D., University of Missouri, 1989.
- 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 and Animal Disease Research and Diagnostic Laboratory; 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.

2025 Summer Term

May 12, Monday – May 23, Friday - May Interim

May 26, Monday - Memorial Day Holiday

May 27, Tuesday – Aug. 1, Friday - 10-week Academic Summer Session

June 13, Friday - Last day to submit a graduation application for Summer 2025****

June 19, Thursday - Juneteenth Holiday

July 4, Friday - Independence Day Holiday

Aug. 4-8, Monday – Friday - August Interim

Third working day after the course end date - Grades due by midnight

**** Aug. 8 - official graduation date noted on transcript

2025 Fall Term

Aug. 25, Monday - Start Date/Instruction begins

Sept. 1, Monday - Labor Day Holiday

Sept. 4, Thursday - Last day to drop or add and adjust final fees

Sept. 5, Friday - Fall tuition and fees payment due; "W" grade begins

Sept. 12, Friday - Last day to submit a graduation application for Fall 2025

Oct. 13, Monday - Native American Day Holiday

Oct. 17, Friday - First half Fall Term ends

Oct. 22, Wednesday - Midterm Grades due by midnight

Nov. 7, Friday - Last day to drop a course

Nov. 11, Tuesday - Veterans' Day Holiday

Nov. 26-30, Wednesday – Sunday - Thanksgiving Recess

Dec. 10, Wednesday - No classes; Final Exam Preparation

Dec. 11-17, Thursday – Wednesday* - Final exams

Dec. 22, Monday - Grades due by noon

*Dec. 17 – official graduation date noted on transcript

Note: There is no Fall 2025 Commencement Ceremony

2026 Spring Term

Jan. 12, Monday - Start Date/Instruction begins

Jan. 19, Monday - Martin Luther King Day Holiday

Jan. 21, Wednesday - Last day to drop or add and adjust final fees

Jan. 22, Thursday - Spring tuition and fees payment due; "W" grade begins

Jan. 30, Friday - Last day to submit a graduation application for Spring 2026

Feb. 16, Monday - Presidents' Day Holiday

March 9, Monday - First half Spring Term ends

March 12, Thursday - Midterm Grades due by midnight

March 16-20, Monday – Friday - Spring Break

April 7, Tuesday - Last day to drop a course

April 3-5, Friday – Sunday** - Easter Recess

May 4-8, Monday – Friday*** - Final exams

May 9, Saturday - Commencement

May 13, 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 6 is currently scheduled as a class day, please note this and plan events and class sessions accordingly.

*** May 8 - official graduation date noted on transcript